



WEST STATE STREET CORRIDOR STUDY

November 2023



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Resolution No. 23-156

A Resolution Adopting the West State Street Corridor Study

WHEREAS, as authorized in Resolution 21-136, the City of Bristol, Tennessee (the "City") obtained grant funding from the Tennessee Department of Transportation ("TDOT") to conduct a study of the West State Street corridor from the corporate limits to its intersection with Volunteer Parkway (the "Study"); and

WHEREAS, the goal of the Study was to identify redevelopment strategies for the West State Street corridor that would maintain its status as a gateway to the City and a central spine of commerce, tourism, and economic development; and

WHEREAS, the Study was conducted by WSP USA Inc., which is a consultant approved by TDOT to perform such work on behalf of grant-funded entities; and

WHEREAS, WSP presented its findings and gathered feedback from the public in an informational meeting on November 16, 2023; and

WHEREAS, the Study was presented to the Bristol Tennessee Municipal Regional Planning Commission on November 20, 2023; and

WHEREAS, WSP presented the Study to City Council at its work session on November 28, 2023; and

WHEREAS, key aspects of the Study included identifying deficiencies within roadway operations, managing access points, determining system needs and safety improvements, and maximizing existing infrastructure; and

WHEREAS, the Study contains specific near term, intermediate, and long-term recommendations related to safety improvements, multimodal and active transportation facilities along the length of the Corridor, redevelopment and revitalization, placemaking, and operational efficiencies; and

WHEREAS, this Study is advisory only, and as such, does not guarantee future land development changes, funding for projects, or other recommendations contained therein; and

WHEREAS, the Planning Commission voted unanimously to forward a favorable recommendation to City Council for adoption of the Study; and

WHEREAS, the City Manager recommends adopting the Study to provide advisory guidance to the City regarding the West State Street corridor.

NOW, THEREFORE, BE IT RESOLVED by the City of Bristol, Tennessee, that the recommendation of the City Manager is hereby accepted, and the West State Street Corridor Study is adopted.

WHEREUPON, the Mayor declared the Resolution adopted, affixed a signature and the date thereto, and directed that the same be recorded.



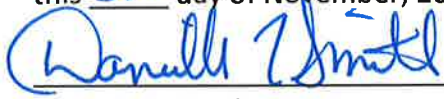
Mayor

Date: 12/5/23



Mary Lee Williams, City Recorder

Approved as to Form and Legality
this 30th day of November, 2023.



Danielle L. Smith, City Attorney

Acknowledgements

This West State Street Corridor Study has benefitted from the input and collaboration of the following individuals, without whom this Study would not be possible.

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Roadway Naming Conventions

West State Street, Highway 11W, and other roadways that intersect with the corridor hold both US highway and state route designations. To simplify reading of this document, these roadways are referred to by name only throughout the document, with their designations included below for reference. Information is sourced from the Tennessee Department of Transportation’s (TDOT) ETRIMS platform.

Roadway	US Designations	SR Designations
Highway 11 W <i>(Segment 1: portion of corridor from Western City Limits to I-81)</i>	11W	1
West State Street <i>(Segment 1: portion of corridor from I-81 to Gate City Hwy/Euclid Ave)</i>	11W	1
West State Street <i>(Segment 2: portion of corridor from Gate City Hwy/Euclid Avenue to Volunteer Pkwy/Commonwealth Ave)</i>	-	1
Blountville Highway	-	126
Euclid Avenue	11W, 421	-
Gate City Highway	421	-
Volunteer Parkway	11E, 19, 421	1
Commonwealth Avenue	11E, 19, 421	381

1. Introduction

The City of Bristol, Tennessee has identified West State Street for the development of a corridor study to help spur and encourage redevelopment along the corridor. While the City has pursued strategies related to land use, zoning, and economic development, this study aims to identify transportation recommendations that improve access and mobility for the traveling public, promote redevelopment of the corridor as a destination, maintain efficient operations, and improve safety. For the purpose of this study, West State Street has been split into two segments. Segment 1 is from the western City limit to the intersection with Euclid/Gate City Highway and Segment 2 is from Euclid Avenue/Gate City Highway to Volunteer Parkway/Commonwealth Avenue, see Figure 1.

To support these efforts, Bristol, Tennessee was awarded a Transportation Planning Grant (TPG) from the Tennessee Department of Transportation (TDOT).



West State Street near 14th Street in Segment 2.

Transportation Planning Grant

The Tennessee Department of Transportation's (TDOT) Transportation Planning Grant (TPG) program is an essential initiative, serving as a catalyst for the advancement and refinement of a multimodal statewide transportation network. The program provides communities with an opportunity to identify needed infrastructure enhancements through the development of corridor studies, bicycle and pedestrian plans, complete streets plans, resurfacing and striping plans, and community mobility plans, to name a few.

This program provides financial support for a varied range of planning efforts, all with the goal of increasing mobility, safety, and sustainability, via strategic engagement with local governments, metropolitan planning organizations (MPOs), and regional entities.



Hwy11W / SR 1 at Pinnacle Parkway in Segment 1.

Goals of the West State Street Corridor Study

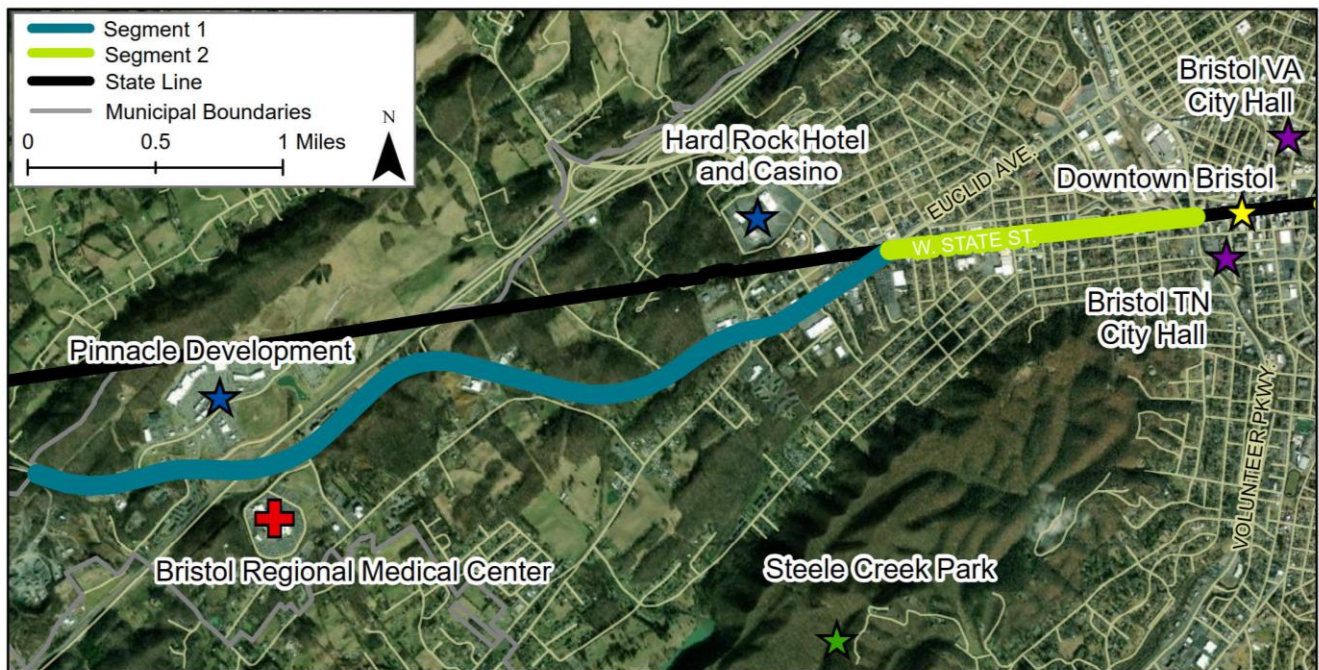
The City of Bristol has identified West State Street for a corridor study that will support and encourage the redevelopment of West State Street as a central spine of commerce, tourism, and economic growth. While the City has previously identified improvements for West State Street in earlier planning efforts, this study aims to develop transportation-specific solutions that can work hand in hand with revitalization initiatives from the western limits of the City to Volunteer Parkway. Working in concert with previous improvement solutions, this

corridor study supports the redevelopment of the corridor as a destination for both residents and visitors, as the area has long called for multimodal enhancements to create a sense of place and extension of Bristol's historic downtown area.

Specific objectives of the *West State Street Corridor Study* include developing solutions that:

- ❖ Maximize existing infrastructure;
- ❖ Define levels of access and mobility;
- ❖ Improve safety;
- ❖ Promote efficiencies and identify deficiencies within operations;
- ❖ Encourage redevelopment and revitalization; and
- ❖ Promote place-making best practices within the streetscape.

Figure 1. West State Street (US 11W/SR 1) - Study Segments



It is important to note that, West State Street is entirely within the City of Bristol Tennessee in Segment 1. In Segment 2, however, the centerline of the roadway largely follows the state line between Virginia and Tennessee. While this study was initiated by Bristol, TN and funded by TDOT, coordination with Bristol, VA and VDOT have been an integral part of this planning effort. Unless otherwise noted, this plan references the City of Bristol, TN when using the term “the City” or “the City of Bristol”.

2. West State Street Today

The City of Bristol has spent years and numerous planning efforts identifying key goals and objectives for the future of West State. Some of these include the 2017 *West State Street Land Use and Redevelopment Report*, the 2018 *Downtown Development Strategy*, and the 2020 City Comprehensive Plan, titled *Bristol Becomes*. Each of these planning efforts evaluated the corridor and established goals and objectives for its future.



West State Street at Blountville Hwy

- ❖ The 2017 *Land Use and Redevelopment Report* led to the adoption of the B-2E Central Business Expansion District from Volunteer Parkway to 18th Street with a goal of preserving the character and densities of a historic compact area of the City.
- ❖ The 2018 *Downtown Bristol Development Strategy* also focused on West State Street from Volunteer Parkway to 18th Street evaluated economic and market conditions along this portion of the corridor focused on respecting historic development patterns and improving walkability, creating walkability nodes, streetscaping enhancements, and shared parking lots.
- ❖ The 2020 Comprehensive Plan, *Bristol Becomes*, included recommendations for corridor master plans that promote complete street design for the City's key corridors, including West State Street.

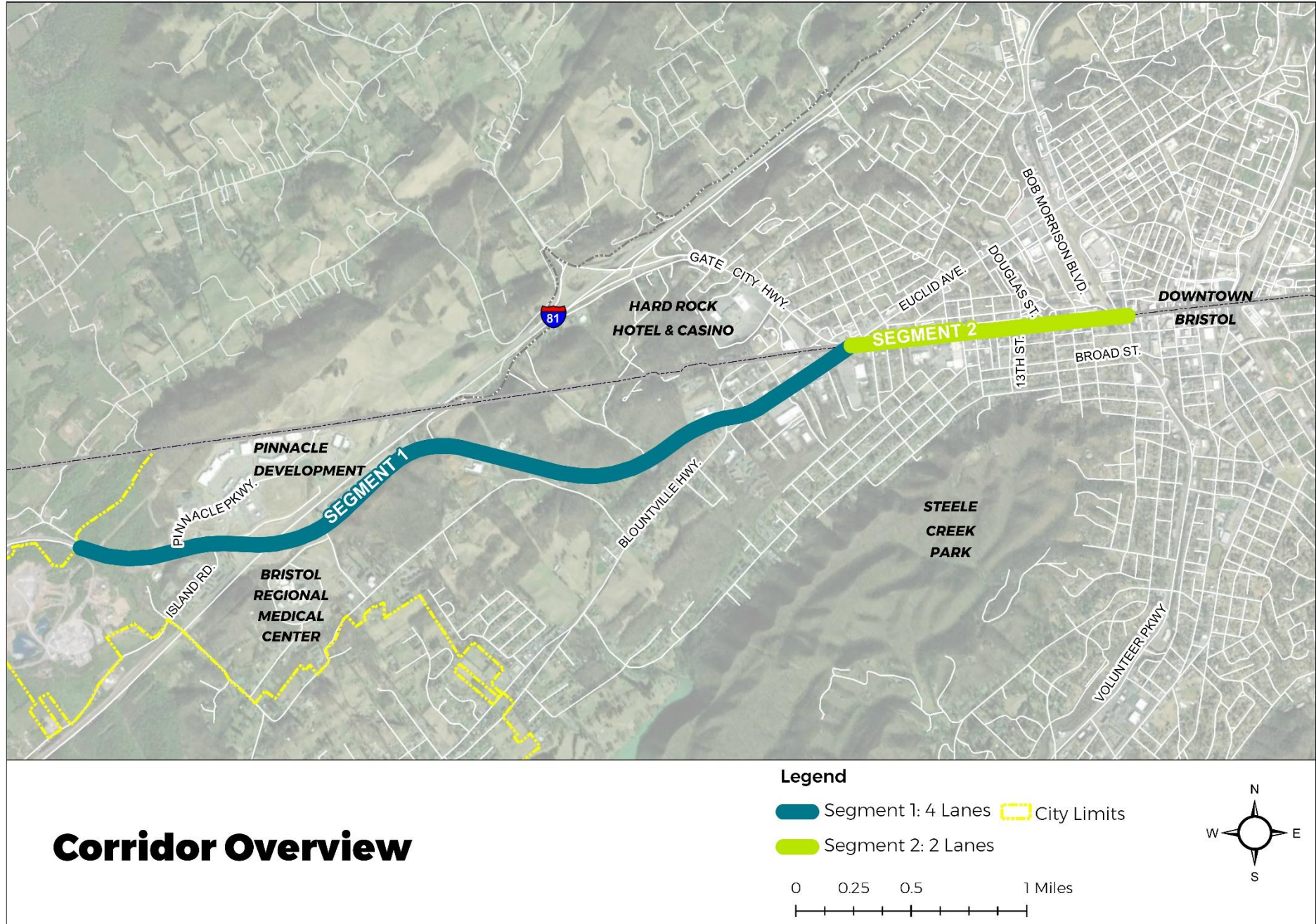
These earlier efforts lay the foundation for this study and continue City efforts to redevelop the corridor as an urban, walkable extension of downtown. To be successful in this pursuit, Bristol's revitalization efforts require a holistic approach with planning, economic development, and transportation and infrastructure initiatives sharing the same vision and set of goals.

The portion West State Street identified for inclusion in this study lies within the planning area of the Bristol Metropolitan Planning Organization (MPO), which includes Bristol, Tennessee; Bristol, Virginia; Abingdon, Virginia; and portions of Sullivan County (TN) and Washington County (VA). The corridor study area includes approximately 4.9 miles of West State Street and has been divided into two segments for analysis purposes.

- ❖ **Segment 1:** Western City limits to Euclid Avenue/Gate City Highway. Please note that the portion of the corridor west of I-81 is officially named Highway 11W but is included as part of corridor-wide discussions throughout this study to reduce confusion.
- ❖ **Segment 2:** Euclid Avenue/Gate City Highway to Volunteer Parkway/Commonwealth Avenue

Segment 1 is functionally classified as a principal arterial, while Segment 2 is classified as a minor arterial. As seen in Figure 2, the corridor spans from the City limits on the west side, to Volunteer Parkway on the east side.

Figure 2. Corridor Overview



Population and Employment

Bristol Becomes included a set of themes that align with community values. One of these themes, *Foster a Resilient Economy*, focuses on the creation of diverse job opportunities and increasing population growth to help spur the local economy with new businesses, employment, ideas and spirit. Understanding existing population and employment patterns along West State Street can help identify how the corridor fits into the fabric of the City as a whole and the potential nature of transportation and infrastructure recommendations that would encourage economic growth and redevelopment.



West State Street entering Downtown.

Current Population & Employment

Population and employment throughout the corridor were estimated by aggregating publicly available data for Census blocks or block groups that are immediately adjacent to the West State Street corridor. Population data is sourced from the Census Bureau’s American Community Survey 2017-2021 five-year estimates. Ten total block groups were identified and used to summarize existing population and employment trends. These are:

Tennessee

- ❖ Census Tract 424, Block Groups 2 and 3
- ❖ Census Tract 425, Block Group 2
- ❖ Census Tract 427.03, Block Groups 1, 2, 3
- ❖ Census Tract 427.04, Block Group 2

Virginia

- ❖ Census Tract 201, Block Groups 2 and 3
- ❖ Census Tract 202.01, Block Group 2

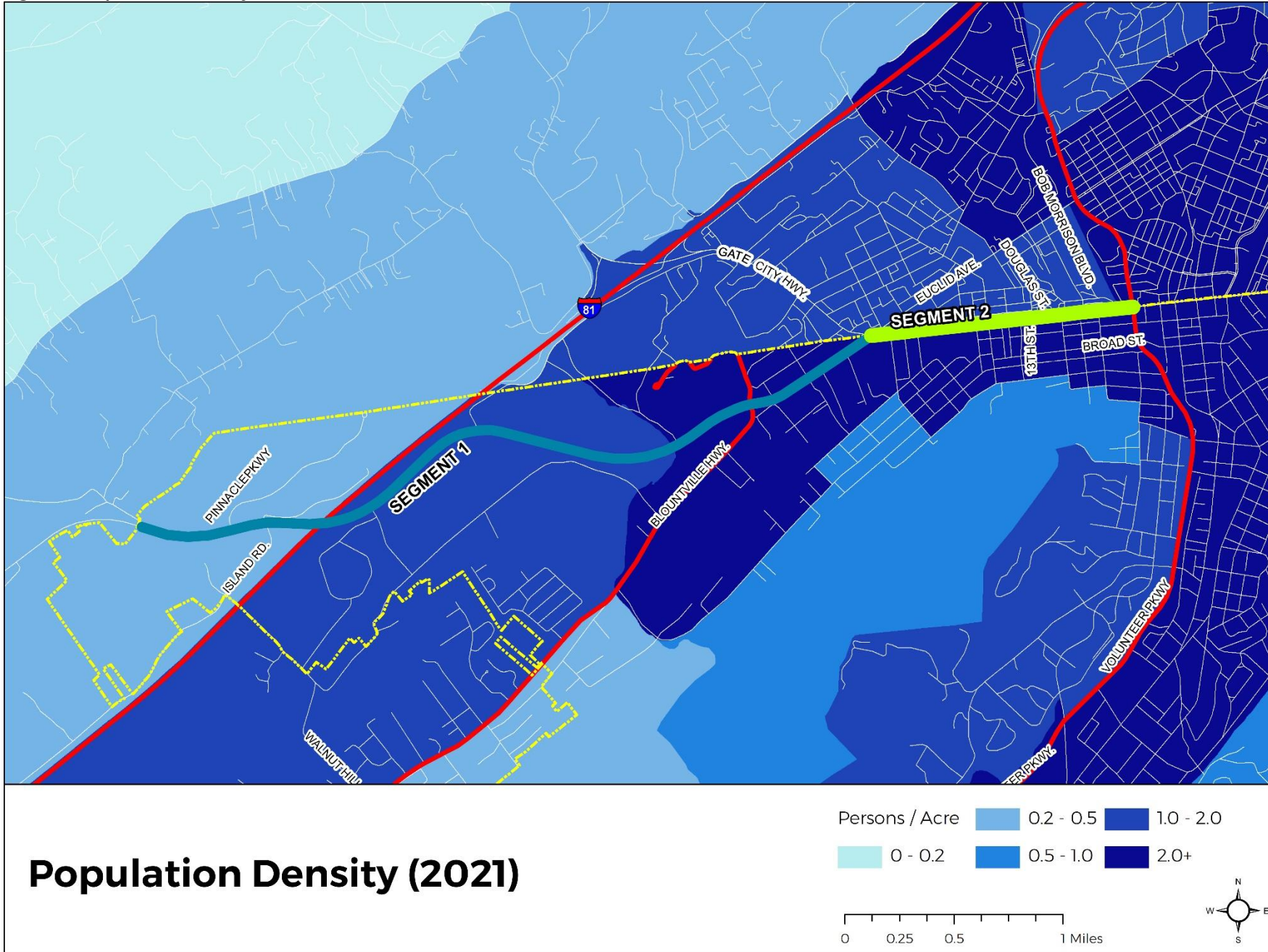
Table 1 shows current population information for the study area, relative to the Cities and County. Population density along the corridor aligns with the overall density for Bristol, Tennessee, and is significantly higher than Sullivan County as a whole. In 2021, higher population concentrations were located south of the West State Street corridor, generally east of Blountville Highway, as shown in Table 1.

Table 1. Population Related Statistics (2021)

2021	Acres	Population	Population Density (People/Acre)	Median Age	Workers 16+
West State Street Corridor	12,610	12,165	0.96	42.4	5,054
Bristol, TN	27,147	27,154	1.00	40.3	10,743
Bristol, VA	8,317	16,996	2.04	43.4	7,098
Sullivan County	275,012	157,843	0.57	45.2	62,021

Source: American Community Survey 5-Year Estimates 2017-2021, DP05 (population and median age), and B08134 (workers 16+)
 * Defined as “workers 16 years and over who did not work from home”

Figure 3. Population Density (2021)



2019 employment data from LEHD¹ Origin-Destination Employment Statistics (LODES) was used to understand corridor level employment. Data from LEHD LODES included in Table 2 was used to glean employment data at a more granular level than commonly used county or metropolitan level resources. Information on total jobs is reported separately from current population to eliminate confusion about the datasets and the years they represent. As seen in Table 2, West State Street is considered an employment hub of the City, with nearly double the employment density of Bristol, TN). Bristol’s Downtown Strategy (2018) identified West State Street as dominated by shoppers goods, with many automotive oriented businesses. At the time of the Strategy was released, roughly nine percent of the corridor’s existing commercial space was vacant.

Table 2. Employment Statistics (2019)

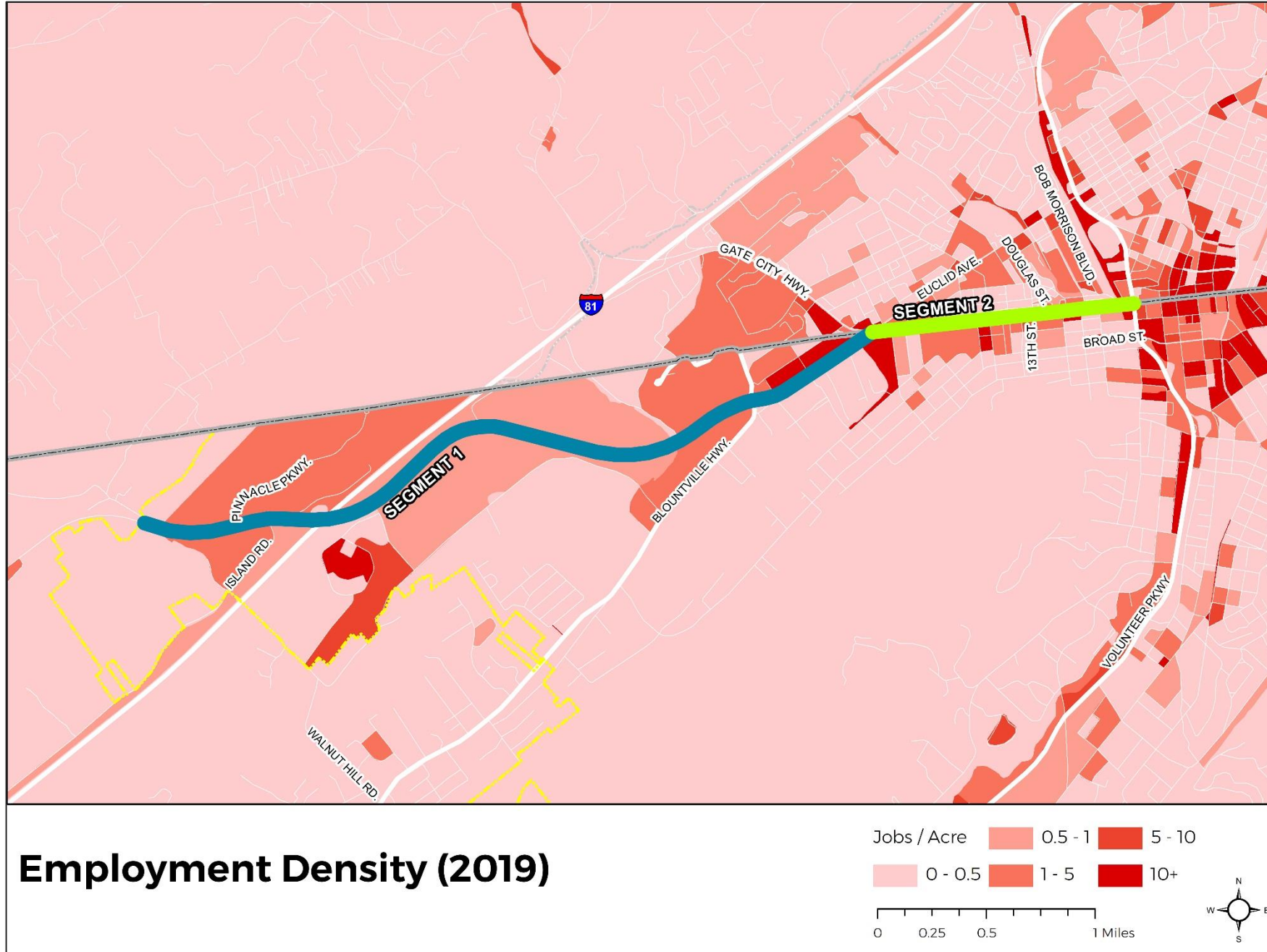
2019	Acres	Employment	Employment Density (Jobs/Acre)
West State Street Corridor	12,610	11,838	0.94
Bristol, TN	27,147	13,183	0.49
Bristol, VA	8,317	7,898	0.95
Sullivan County	275,012	59,723	0.22

Source: LEHD Origin-Destination Employment Statistics (LODES), [Census OnTheMap](#) application

Current employment is concentrated in Downtown Bristol along Volunteer Parkway/Commonwealth Avenue, near the intersection of Euclid Avenue/Gate City Highway, and towards the western terminus of Segment 1 at the Bristol Regional Medical Center and the Pinnacle shopping center. Corridor level employment density aligns with the overall employment density of Bristol, VA, and is nearly double that of Bristol, Tennessee, as a whole (Table 2).

¹ Longitudinal Employer-Household Dynamics, United States Census Bureau, <https://lehd.ces.census.gov/data/>.

Figure 4. Employment Density (2019)



Future Population & Employment

Future population and employment concentrations indicate areas with the highest need for increased infrastructure capacity, including access to safe and reliable transportation opportunities. The analysis below and maps on the following pages are sourced from the MPO’s travel demand model (TDM), which includes forecasts for population and employment through the Regional Transportation Plan (RTP) horizon year of 2045. These are informed by historical trends as well as local plans, programs, and initiatives. Traffic analysis zones (TAZs) were utilized in the MPO TDM development process and contain information on the anticipated future population and employment in the region and along the corridor. The TAZs used to analyze future population and employment represent difference geographies than Census block groups.

Normalizing population and employment by acreage provides an opportunity to compare concentrations of denser development and anticipated future development patterns in and around the West State Street corridor.

Table 3 shows that future corridor population is expected to continue to be concentrated along Segment 2, east of Blountville Highway, with continued commercial and highway-oriented development leading to low residential densities towards the western edge of the corridor along Segment 1.

Table 3. 2045 Forecasted Population and Employment

Variable	Acres	Population	Population Density (People/Acre)	Employment	Employment Density (Jobs/Acre)
Total Population	12,862*	16,209	1.26	17,556	1.36

Source: Bristol MPO TDM

*Acreage totals for future population and employment estimates are derived from TAZs used in the MPO TDM, and slightly differ from summaries developed using Census geographies.

As shown in Table 3, the West State Street corridor is anticipated to experience significant population and employment growth – with population increasing from approximately 12,000 to over 16,000 residents and employment increasing from approximately 12,000 to over 17,500 jobs by 2045. Population density is anticipated to increase from under 1 person per acre to roughly 1.26 people per acre, and employment density to 1.36 jobs per acre from 0.94.

As seen in Figure 6, future employment density is anticipated to be concentrated in Downtown Bristol, east of Segment 2 and the study’s termini, and along I-81 in and around the existing Pinnacle regional shopping center and Bristol Regional Medical Center in Segment 1.

Figure 5. 2045 Projected Population Density

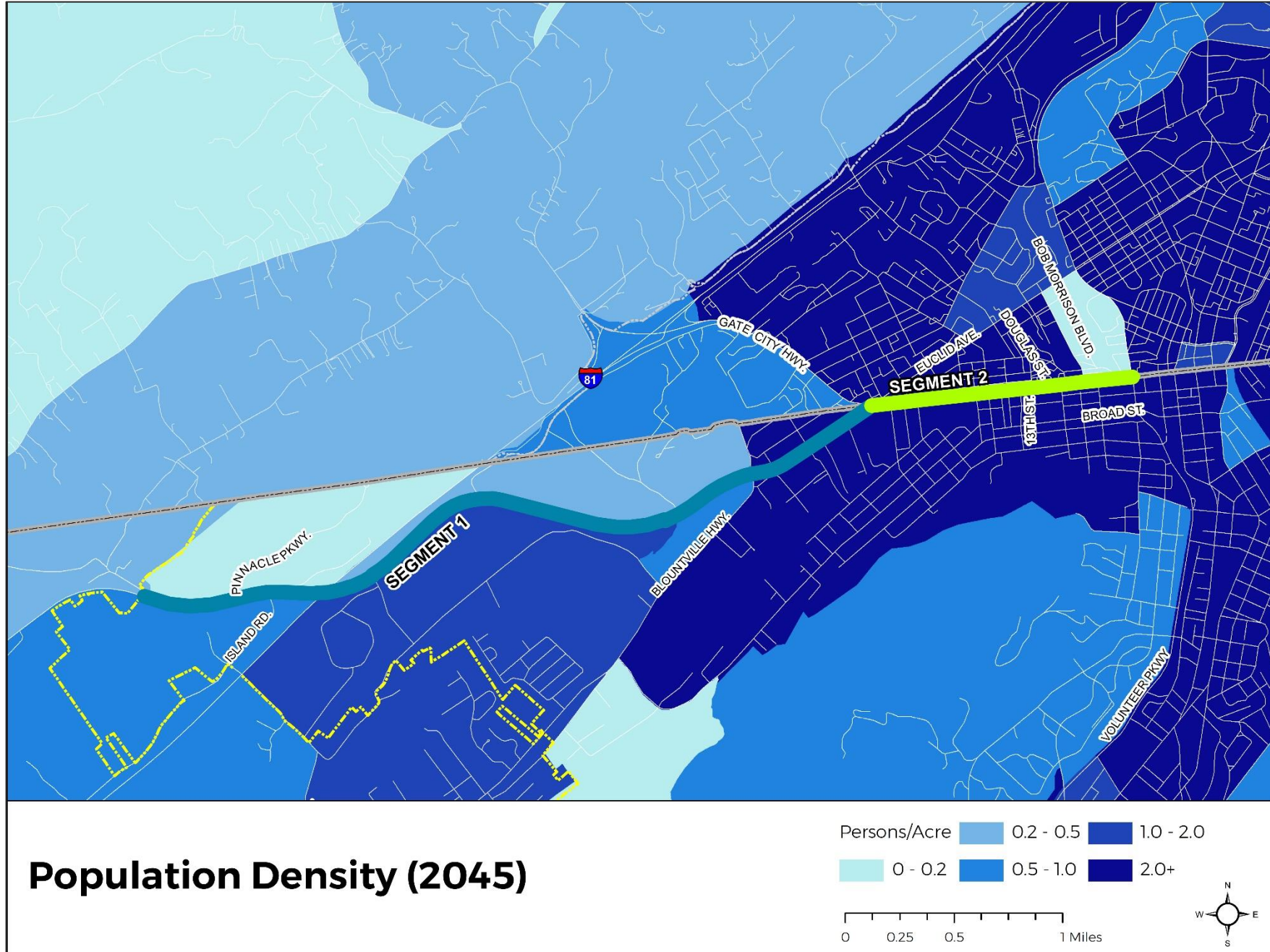
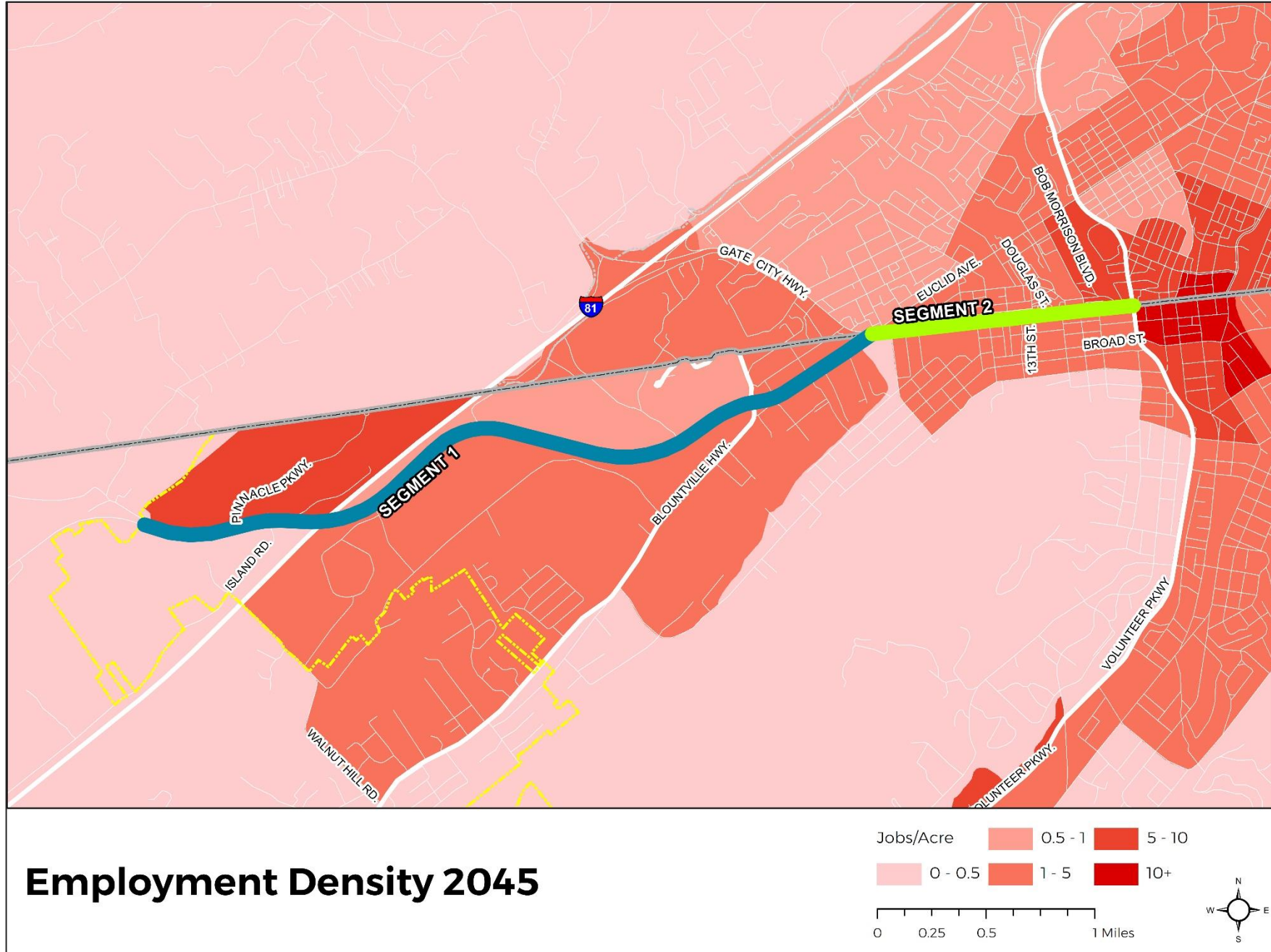


Figure 6. 2045 Projected Employment Density



Current and Planned Infrastructure Projects

There are several infrastructure projects identified by both the MPO and TDOT that are likely to impact corridor operations in the future. Table 4 provides an inventory of projects planned for and likely to impact the corridor. These are sourced from the MPO’s [2045 Regional Transportation Plan Update \(RTP\)](#).^{2,3} As of this writing, no projects specifically targeted for West State Street (US 11W/SR 1) are included in the MPO’s [2023-2026 Transportation Improvement Program \(TIP\)](#).⁴ Projects that are listed in the RTP are proposed, but do not have programmed funding.

Table 4. MPO RTP Projects

Name	Project #	Horizon	Cost	Lead Agency	Description
North-South Connector Walnut Hill Road Extension	T1-1	2021-2025	\$7,794,203	Bristol, TN	New 4-lane roadway from Hwy. 11W to Island Rd.
Highway 11W	T1-2	2021-2025	\$1,092,727	Bristol, TN	Add auxiliary lane construction at Exit 74B off-ramp to Steven’s Trail
W. State Street/Euclid Ave/Gate City Hwy	T1-3	2021-2025	\$327,818	Bristol, TN	Intersection modifications and signal upgrade
North-South Connector Walnut Hill Rd	T2-1	2026-2035	\$6,983,172	Bristol and Sullivan County	Spot modifications between Island Rd. and Blountville Hwy./SR 126
North-South Connector Hwy 126	T2-3	2026-2035	\$11,365,500	Sullivan County	Widen to 3 or 4 lanes from Walnut Hill Rd. to Carden Hollow Rd.
W State St/Hwy 11W	T2-5	2026-2035	\$4,552,000	Bristol	Median modifications at selected intersections from Sycamore St. to Medical Park Blvd.
Interstate 81 northbound	T2-6	2026-2035	\$3,308,874	Bristol	Ramp modifications at I-81 northbound Exit 74 on ramp
North-South Connector Carden Hollow Road	T3-1	2036-2045	\$39,667,621	Sullivan County and Bristol	Spot modifications from Hwy. 126 to Exide Dr.
North-South Connector Exide Drive	T3-2	2036-2045	\$15,597,576	Bristol	Widen to 4 lanes from Volunteer Pkwy./Hwy. 11E to west of Bethel Dr.
W. State Street	T3-3	2036-2045	\$1,501,850	Bristol	Intersection modifications at Memorial Dr./Skateway Dr.

TDOT’s [Interactive Tennessee Road Improvement Program \(ITRIP\)](#) database includes state-sponsored projects likely to impact the corridor. These include:

- ❖ **PIN 124621.00:** This project corresponds to various phases of the North-South Connector project referenced by phase in Table 4. Details include the widening of Bethel Drive, Carden Hollow Road, Walnut Hill Road, and Exide Drive from near Bristol Motor Speedway to near Pinnacle Parkway.⁵
- ❖ **PIN 12459.00:** ITS expansion along I-81 from near I-26 to near I-381.

² Interactive Tennessee Road Improvement Program, (ITRIP), Tennessee Department of Transportation, <https://www.arcgis.com/apps/dashboards/e14888bce2954050a10df5e949a1bc1d>.

³ Regional Transportation Plan Update – Year 2045, Bristol Tennessee/Virginia Urban Area Metropolitan Planning Organization, September 2021, <https://www.bristoltn.org/DocumentCenter/View/9293/Bristol-Long-Range-Transportation-Plan-2045>.

⁴ Fiscal Year 2023-2026 Transportation Improvement Program (TIP), Bristol Tennessee/Virginia Urban Area Metropolitan Planning Organization, <https://www.bristoltn.org/1514/Fiscal-Years-2023-2026>.

⁵ IMPROVE Act project.

The City was also recently awarded a grant under the State Industrial Access (SIA) Program for transportation improvements surrounding Tennessee Hills \$21 million dollar expansion project. Tennessee Hills is a distillery and spirit distributor planning to build a 34,000 square foot distillery near the Pinnacle shopping center, with the capacity to produce 7,000 bottles of spirits in a span of hours. The project will also be the site of a museum dedicated to Tennessee’s rich history and its moonshining and whiskey origins. The City of Bristol donated 45 acres adjacent to the Pinnacle to pair with the project, where Tennessee Hills plans to open an adventure and entertainment park.⁶

Transportation and utility improvements planned as part of the SIA grant include linking Walnut Hill Road to Pinnacle Parkway, and the following spot improvements:

- ❖ **Highway 11W and Island Road/Steven’s Trail:** Improve to right-in, right-out only with appropriate signage.
- ❖ **Distillery entrance:** Convert old National College entrance to right-out only with appropriate signage; scarification of the road may not be needed.

Related Planning Efforts

Bristol has a long history of investing in planning related efforts that identified solutions for West State Street (US 11W/SR 1) to become a thriving corridor. From the recently completed Comprehensive Plan update to the Downtown Development Strategy plan, this corridor has been a priority for many years. Multiple planning documents routinely referenced the desire for complete street and multimodal improvements along the corridor and this Corridor Study will into account previously created plans and assist the City with creating a solidified vision for the future.

Bristol Becomes, Comprehensive Plan (2020)

The Bristol, Tennessee Comprehensive Plan, titled *Bristol Becomes*, was adopted in 2020 with the purpose establishing a vision for the City over the next 30 years. The plan includes several transportation-related goals including managing parking, improving and increasing safe multimodal connectivity, encouraging street and greenway connectivity between neighborhoods, and designating much of West State Street in Segment 1 as a Rural Scenic Corridor.⁷ Scenic corridors were identified to create policies and guidelines to protect the visual quality of corridors and enhance entrances to the City.



There are several applicable planning actions within the Comprehensive Plan that impact the West State Street corridor.

The entirety of the corridor is outlined as a Corridor Commercial Area which has the intent of promoting development and redevelopment, creating attractive gateways into the City, and creating a multimodal and mixed-use pattern.

Several activity center types are also identified in the plan, with much of Segment 1 identified as an Employment Mixed-Use Center and Segment 2 identified as a Neighborhood Commercial Center. The Comprehensive Plan identified the need to create corridor master plans, including one for West State Street that promotes complete street design with narrow traffic lanes, sidewalks, street trees, and walkable block sizes.

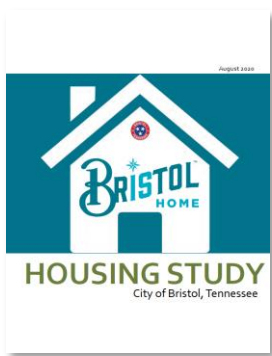
⁶ Tennessee Hills breaks ground on \$21 million Bristol expansion, WJHL, August 30, 2022, <https://www.wjhl.com/news/local/tennessee-hills-breaks-ground-on-21-million-bristol-expansion/>.

⁷ Bristol Becomes, Bristol, Tennessee Comprehensive Plan, 2020, <https://bristoltn.org/DocumentCenter/View/8758/Bristol-TN-Comprehensive-Plan-Adopted-2020?bidId=>.

Complete street design prioritizes improved mobility for multiple modes such as walking, biking, transit, in addition to driving. Other recommendations include:

- ❖ Implementing the North-South Connector between West State Street and Volunteer Parkway/Commonwealth Avenue. This project is split into phases in the MPO's RTP.
- ❖ Promoting transit opportunities that would connect people to the Pinnacle, Downtown, Bristol Regional Medical Center, Bristol Motor Speedway and to under-served neighborhoods.
- ❖ Implementing a City bike route along Segment 1.
- ❖ Linking neighborhoods to natural open spaces, including Steele Creek Park just south of the corridor.

Housing Study (2020)



The Bristol Housing Study, titled [Bristol Home](#), was completed in 2020 with the purpose of examining both existing conditions and future demand for housing Bristol residents at all income levels. Transportation specific recommendations included in the study focus on enhancing transit service by extending transit hours and incorporating transit in land use and planning decisions, especially as it could improve access to residential housing projects.⁸ The study also addresses previous recommendations to define the West State Street Commercial Corridor and the West State/ SR 126 area as redevelopment areas suited for the use of tax increment financing (TIF) policies and development strategies. The TIF policy developed by the City states that projects must demonstrate a public benefit by eliminating or reducing blight, poverty, stabilizing and upgrading existing residential, commercial and industrial areas, creating economic stability, or strengthening the employment and

economic base of the City.

Business District Design Standards, Requirements, and Best Practices (2020)



The City of Bristol completed [Commercial Design Guidelines](#) in 2020 with the goals of promoting a pro-active growth and development strategy to strengthen the long-term economic viability of the community, promoting quality building practices, and preserving and enhancing the City's visual appeal. The guidelines include design standards for building materials, lighting, building massing, building placement, building access, and parking. Guidelines that are applicable to West State Street include minimizing the visibility of parking, consolidating or minimizing curb cuts for motor vehicles, and encouraging inter-parcel access opportunities.⁹

⁸ *Bristol Home*, Housing Study, Bristol, Tennessee, August 2020, <https://www.bristoltn.org/DocumentCenter/View/8733/Housing-Study---August-2020>.

⁹ *Business District Design Standards, Requirements, and Best Practices*, Version 1.0, City of Bristol, TN, Summer 2020, <https://www.bristoltn.org/DocumentCenter/View/9238/Commercial-Design-Guidelines-Booklet->

Downtown Bristol Development Strategy (2018)

Beyond transportation, the City has established a Downtown Development Strategy that provides physical enhancement strategy recommendations as well as place specific strategies for the West State Street corridor. The strategy identified the Downtown Fringe and West State Street as the secondary study area, identified for the possibility of potential expansion of the existing Downtown’s footprint.

While primarily focused on the downtown area, the document includes valuable recommendations related to pedestrian mobility and the streetscape that may impact recommendations along the corridor. These include, but are not limited to:

- ❖ Develop pedestrian bulbs where on-street parking exists to protect the end vehicles and decrease the crossing distance for pedestrians.
- ❖ Develop crosswalks with specialty paving that will clearly delineate them and that will allow drivers to feel them under their tires. Specialty paving should be either individual pavers (brick or concrete) or stamped concrete. Stamped asphalt is not recommended.
- ❖ Install signage alerting drivers of pedestrian crossings.
- ❖ Expand street lighting along both streets and in parking lots.
- ❖ Explore the potential to add bike lanes to key streets peripheral to the Downtown core where sufficient curb-to-curb widths exist. Bike lanes should be delineated with white and green paint striping distinguishing where cyclists must take particular care at intersection crossings. Depending upon the ultimate design details, removable plastic bollards might be installed to separate cyclists from motorized vehicle traffic.¹⁰
- ❖ Install bicycle racks at key locations where they are currently lacking or more are needed.

Recommendations were focused on Segment 2, with three options considered for redesigning West State Street to be more friendly for pedestrians and cyclists:

1. Install bike lanes and eliminate on-street parking.
2. Add street trees in bulb-outs with tree wells within parking lanes.
3. Eliminate on-street parking and widen sidewalks.

Option two was selected with the proposed street profile as seen in Figure 7. Parking recommendations focused on shared parking lots given the reduced parking requirements in the Central Business Expansion (B-2E) zone.

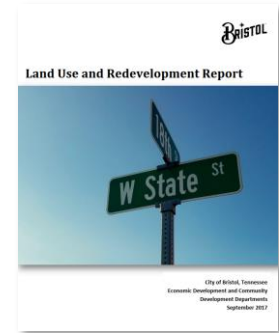
Figure 7. Downtown Development Strategy Proposed West State Street (US 11W/SR 1) Profile



¹⁰ It is noteworthy that the concept of a bike lane along West State Street starting a bit west of the intersection of Volunteer Parkway (US 11E/US 19)/Commonwealth Ave (US 11E/US19/US421), was explored as part of the Downtown Redevelopment Strategy. However, the required removal of on-street parking to accommodate such a redesign received initial push-back from stakeholders, so that idea was abandoned.

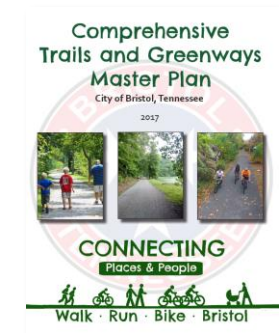
West State Street Land Use and Redevelopment Report (2017)

The West State Street Redevelopment Plan was adopted in 2017 with the purpose of eliminating blight, providing adequate parking, promoting pedestrian circulation, and encouraging development reflective of the existing central business district. This plan provided recommendations in phases, with Phase 1 covering much of Segment 2, running from Volunteer Parkway/Commonwealth Avenue to 18th Street. This report ultimately led to the adoption of the Central Business Expansion (B-2E) zone through much of Segment 2. Subsequent phases of the report focus on portions of the corridor that lie in Segment 1, specifically between Skateway Drive/Memorial Drive and Blountville Hwy/Grove Park Drive.



Comprehensive Trails and Greenways Master Plan (2017)

The Comprehensive Trails and Greenways Master Plan was completed in 2017 with the purpose of determining possible locations for bicycle and pedestrian facilities throughout Bristol, Tennessee. The Master Plan also outlines the importance of connecting existing facilities to activity centers through expansions or new facilities and includes design guidelines that may assist in the development of recommendations for the West State Street corridor.



Several routes proposed in the Master Plan exist near West State Street including:

- ❖ Pinnacle Greenway running from Blountville Highway north to the Pinnacle the Bass Pro Shops
- ❖ Blountville Highway Greenway running from Carden Hollow Road to the state line
- ❖ Wellmont Greenway connecting Walnut Hill Road and Steele Creek Park via Meadow View Road

These proposed greenways would connect the Pinnacle shopping center, Blountville Highway (SR 126), the Bristol Regional Medical Center, Steele Creek Park, the existing Mark Vance Greenway, and the Walnut Hill neighborhood to each other and to the Far West Bicycle Route that runs along West State Street (US 11W/SR 1) to downtown Bristol.

3. Transportation Conditions

West State Street is functionally classified as a **principal arterial** within Segment 1, and a **minor arterial** throughout Segment 2. The corridor is characterized by rolling terrain and surrounded by a variety of land uses including commercial, residential, and services. Information on current transportation and roadway conditions was obtained from TDOT's Enhanced Tennessee Roadway Information Management System (ETRIMS). Table 5 provides a detailed description of roadway features for the corridor and an outline of varying factors such as right-of-way limits, number of lanes, and speed limits for each segment.

Roadway Characteristics

The two segments combine rural, suburban, and urban road type traits and serve varying functions for the City of Bristol, each allowing for strong multimodal improvements that will enhance the quality of life for all residents. Each segment of the corridor is discussed below in more detail.



Segment 1 is characterized as a 4-lane roadway with rolling terrain

Segment 1

This segment of West State Street is 3.63 miles long and is generally characterized as a four-lane roadway with 12-foot-wide travel lanes, a grass or concrete median from 10 to 24 feet wide, inside

shoulders from one to four feet wide, and outside shoulders from eight to 16 feet wide. The shoulders are also designated as unbuffered bicycle lanes for the entirety of the segment. There are six signalized intersections and eight unsignalized intersections along Segment 1. The signalized intersections are located at the following cross streets:

- ❖ Pinnacle Parkway
- ❖ Medical Park Boulevard
- ❖ Blountville Highway/Grove Park Drive
- ❖ Skateway Drive/Memorial Drive
- ❖ Carson Lane
- ❖ Euclid Avenue/Gate City Highway

Segment 2

This segment is 1.29 miles long and is generally characterized as a two-lane roadway with 13-foot-wide travel lanes, an outside shoulder, occasional right turn lanes, intermittent left turn lanes, curb and gutter, sidewalks, and an outside shoulder. There are five signalized intersections and 14 unsignalized intersections along Segment 2. The signalized intersections are located at the following cross streets:

- ❖ 24th Street
- ❖ 17th Street/Peters Street
- ❖ Bob Morrison Boulevard
- ❖ Volunteer Parkway/Commonwealth Ave



Segment 2 is characterized as a 2-lane roadway with frequent driveways and sidewalks.

Table 5. Roadway Feature by Segment

Segment Breakdown	Start Point (L.M.)	End Point (L.M.)	Approximate Right-of-Way (feet wide)	Number of Lanes	Speed Limit (mph)
Segment 1	20.37	20.59	150	4	45
	20.59	22.89	150	4	55
	22.89	23.23	150	4	45
	23.23	23.37	150	4	35
	23.37	23.99	106	4	35
Segment 2	23.99	24.05	70	2	35
	24.05	24.18	56	2	35
	24.18	25.20	26	2	25

Access

Driveway spacing, corridor access, and street connectivity are prominent considerations in development and redevelopment opportunities along West State Street, with poor access management often leading to safety concerns for drivers, pedestrians, and bicyclists. Specifically, high driveway density can be detrimental to the efficiency and safety of corridors due to an increased frequency of vehicles turning onto and off of the main road. There are numerous strategies and policies that can be deployed by local entities, in collaboration and alignment with state policies and initiatives, to better promote access management at the local level.¹¹

The majority of driveways throughout the West State Street corridor serve as access points to commercial developments. TDOT's Highway System Access Manual (HSAM) provides guidance on the required minimum distances between driveways.¹² The minimum distance between driveways in an urban environment along principal arterials and minor arterials should be 880 feet and 660 feet, respectively. Driveways located along the corridor generally do not adhere to this guideline. The City's [Business District Design Standards](#), discussed later in this document, includes best practices for building access. In it, the City promotes consolidating or minimizing the number of curb cuts to promote pedestrian safety, and inter-parcel access to create more navigable development.¹³

Another key guideline to ensure safety and efficiency is a minimum distance of 40 feet between double driveways on the same parcel. This stipulation of minimum spacing typically leads to a limit of one entrance to a single parcel of land unless the parcel has a frontage that exceeds 200 feet. Driveways along the corridor were all found to be in conformance with this guidance.

Unsignalized Intersections

There are eight unsignalized intersections within Segment 1 and 15 unsignalized intersections in Segment 2. TDOT's HSAM states that unsignalized intersections along principal arterials and minor arterials should each have a minimum spacing of 1,320 feet. Most intersections along the corridor are located closer together than the minimum spacing specified in the HSAM. The two unsignalized intersections that adhere to the spacing guidelines are all located in Segment 1. They are:

¹¹ TDOT's [Highway System Access Manual](#) summarizes various strategies, regulations, and geometric design criteria for access management.

¹² TDOT's Highway Safety Access Manual, <https://www.tn.gov/tdot/traffic-operations-division/traffic-engineering-office/operations-and-safety/access-manual.html>.

¹³ [Business District Design Standards, Requirements, and Best Practices](https://www.bristoltn.org/DocumentCenter/View/9238/Commercial-Design-Guidelines-Booklet-), Version 1.0, City of Bristol, TN, Summer 2020, <https://www.bristoltn.org/DocumentCenter/View/9238/Commercial-Design-Guidelines-Booklet->

- ❖ From the first median opening east of Medical Park Blvd to the Northbound I-81 Exit 74A on-ramp
- ❖ From I-81 North ramp to Slaughter Street

Traffic

Existing traffic conditions along West State Street were assessed to identify deficiencies related to corridor capacity and operations and to establish a baseline against which potential impacts of future growth can be evaluated. The study team compiled 2021 annual average daily traffic (AADT) as well as historic AADT volumes for years 2017 through 2020 from TDOT.

Historical and Current

AADT was collected via TDOT's [Traffic Information Management and Evaluation System \(TN-TIMES\)](#) for 2017-2021.¹⁴ TDOT collects 24-hour bidirectional traffic volume data annually at count stations across the state. This data is adjusted using traffic variation factors (TVF) that normalize the data by accounting for weekly and monthly changes in traffic volumes. TDOT then publishes the resulting AADT for each count station, defined as the total volume of vehicles passing through the count station in a year, divided by 365 days. AADT was not yet available for 2022.

Four count stations are present along the corridor, three in Segment 1 (#82, #84 and #117) and one in Segment 2 (#85). Historical traffic was also gathered for traffic station #121, immediately east of the corridor termini near Volunteer Parkway in Downtown Bristol.

¹⁴ Tennessee Traffic Information Management and Evaluation System, TN-TIMES, <https://www.tn.gov/tdot/long-range-planning-home/longrange-road-inventory/tn-times.html>.

Figure 8. 2021 AADT

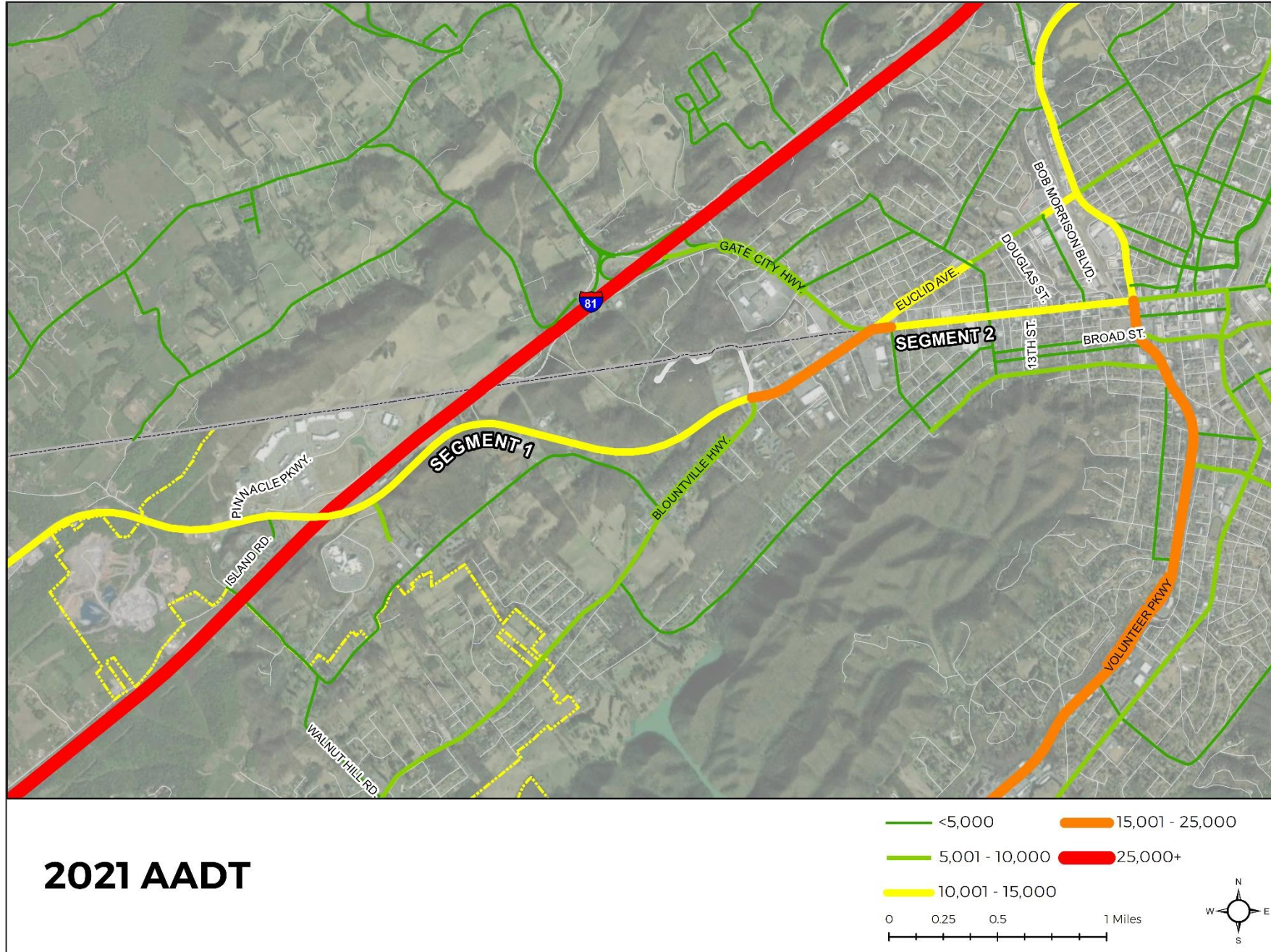
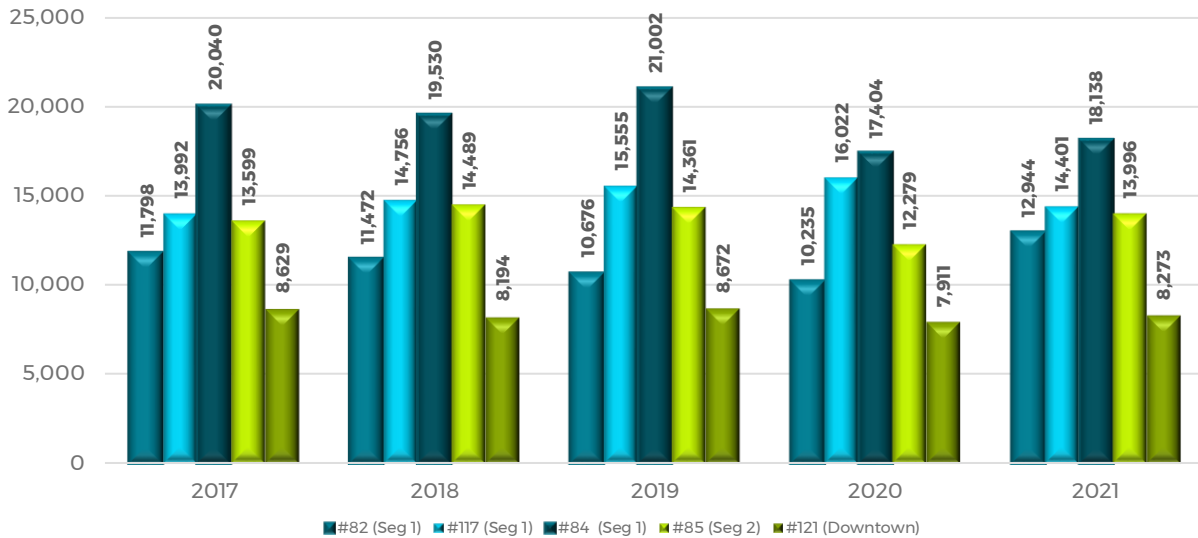


Figure 9 shows historic AADT data for count stations along the corridor. Traffic has fluctuated across both segments of the corridor, with volumes decreasing west of I-81 from 2017 through 2020, and experiencing a significant increase of 26% in 2021. Segment 1 east of I-81 has hovered around 15,000 AADT, increasing as drivers approach Euclid Avenue/Gate City Highway. While volumes have generally declined since the beginning of the analysis period, 2021 generally represented an increase in volumes across all count stations.

Figure 9. Five-Year Historic AADT



Level of Service

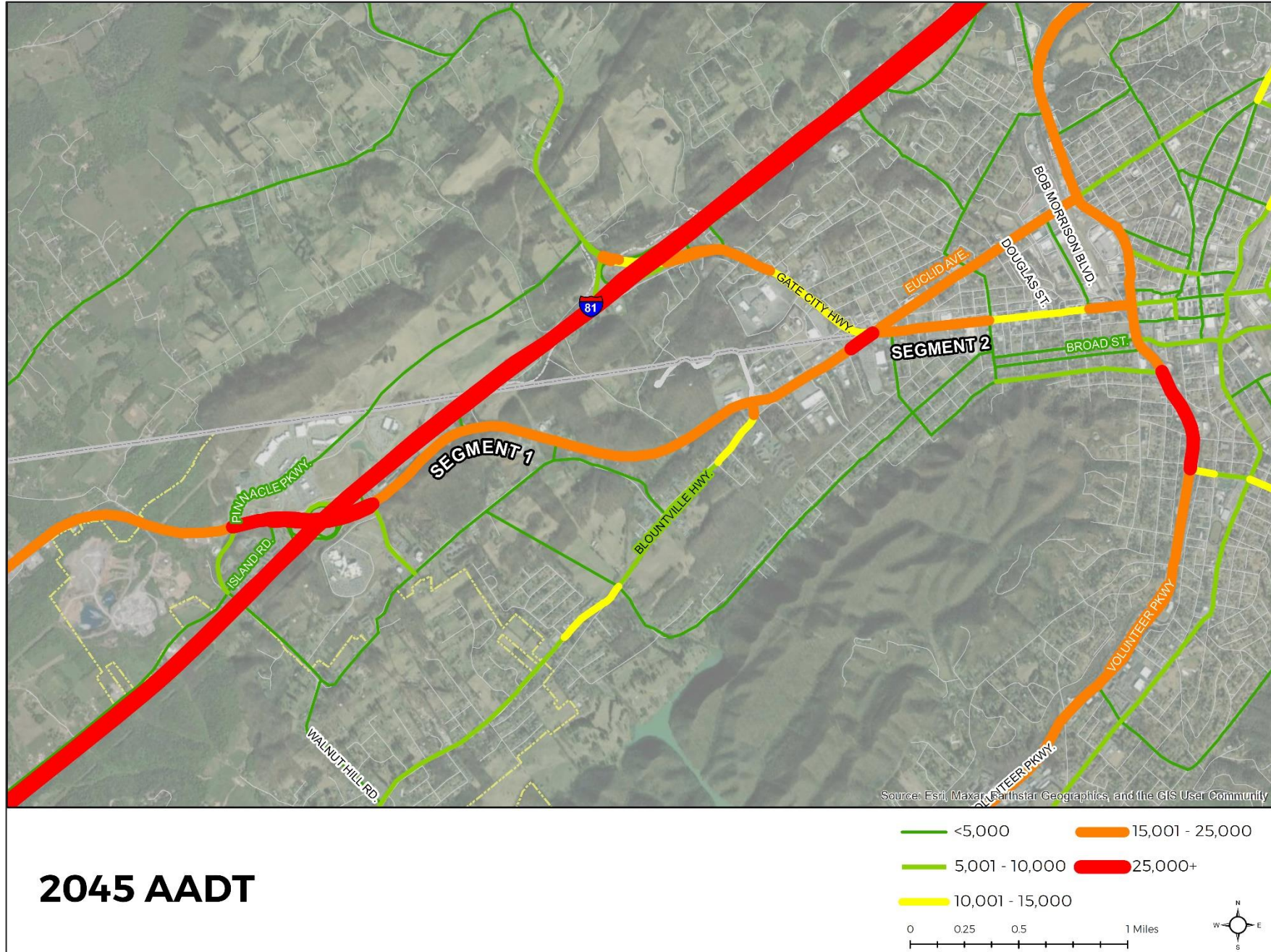
Future

Future traffic volumes were obtained from the Bristol MPO TDM and highlight a few areas within both segments that are anticipated to have substantially increased traffic volumes.

Segment 1. Figure 10 shows a significant growth in traffic is anticipated throughout Segment 1, both east and west of I-81. Volumes near the Pinnacle are anticipated to nearly double, increasing from approximately 13,000 vehicles per day to up to approximately 33,000 vehicles. A significant portion of these vehicles are anticipated to access the Pinnacle and other highway-oriented developments at Exit 74, with volumes decreasing as you travel away from the interstate. Volumes between I-81 and Blountville Highway are anticipated to increase by over 50% from approximately 14,000 in 2021 to over 20,000 in 2045. Daily traffic volumes at the intersection of Euclid Avenue/Gate City Highway are expected to be in excess of 25,000 vehicles per day.

Segment 2. While Figure 8 shows that volumes on Segment 2 are currently around 14,000 vehicles per day, future growth is expected to increase to around 18,000 near Euclid Avenue/Gate City Highway, representing an increase of over 30%, as shown in Figure 10.

Figure 10. 2045 AADT



Level of Service

As volumes increase, existing transportation infrastructure like West State Street and intersecting roadways may experience more traffic than the capacity of the roadway. The Bristol MPO TDM includes anticipated level of service (LOS) on primary roadways throughout the region as determined by the volume-to-capacity (V/C) included in Table 6. Volume-to-capacity (V/C) ratios indicate what volume of traffic a roadway is carrying compared to its maximum rated capacity. For example, a V/C of 1.0 indicates a roadway facility is operating at capacity.

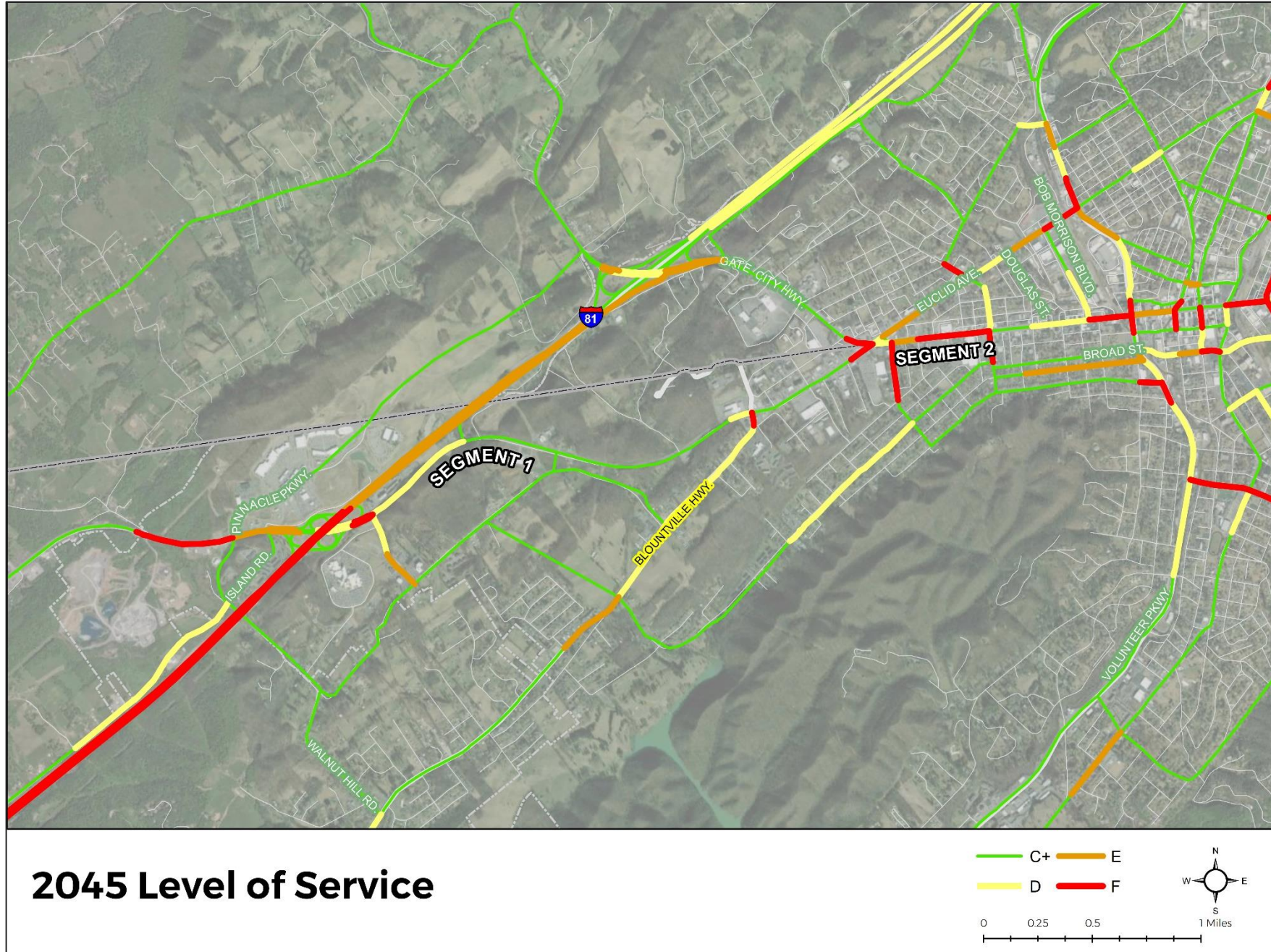
Table 6. Level of Service Definitions

LOS	Description	V/C
C+	Free flow speeds to moderate congestion	< 0.7
D	Speeds reduced	0.7 - 0.85
E	Congestion - Irregular flow	0.85 - 1.0
F	Road at capacity - Gridlock	> 1.0

Source: Bristol MPO RTP

Figure 11 displays anticipated LOS in 2045 during the AM peak. Portions of the corridor anticipated to experience degraded level of service include West State Street near I-81 and Medical Park Boulevard in Segment 1 and in Segment 2 near both Euclid Avenue/Gate City Highway and Volunteer Parkway/Commonwealth Avenue. Several intersecting roadways are also anticipated to experience degraded LOS as they approach West State Street. These include at Blountville Highway in Segment 1, and 24th Street, 17th Street, and Volunteer Parkway/Commonwealth Avenue in Segment 2.

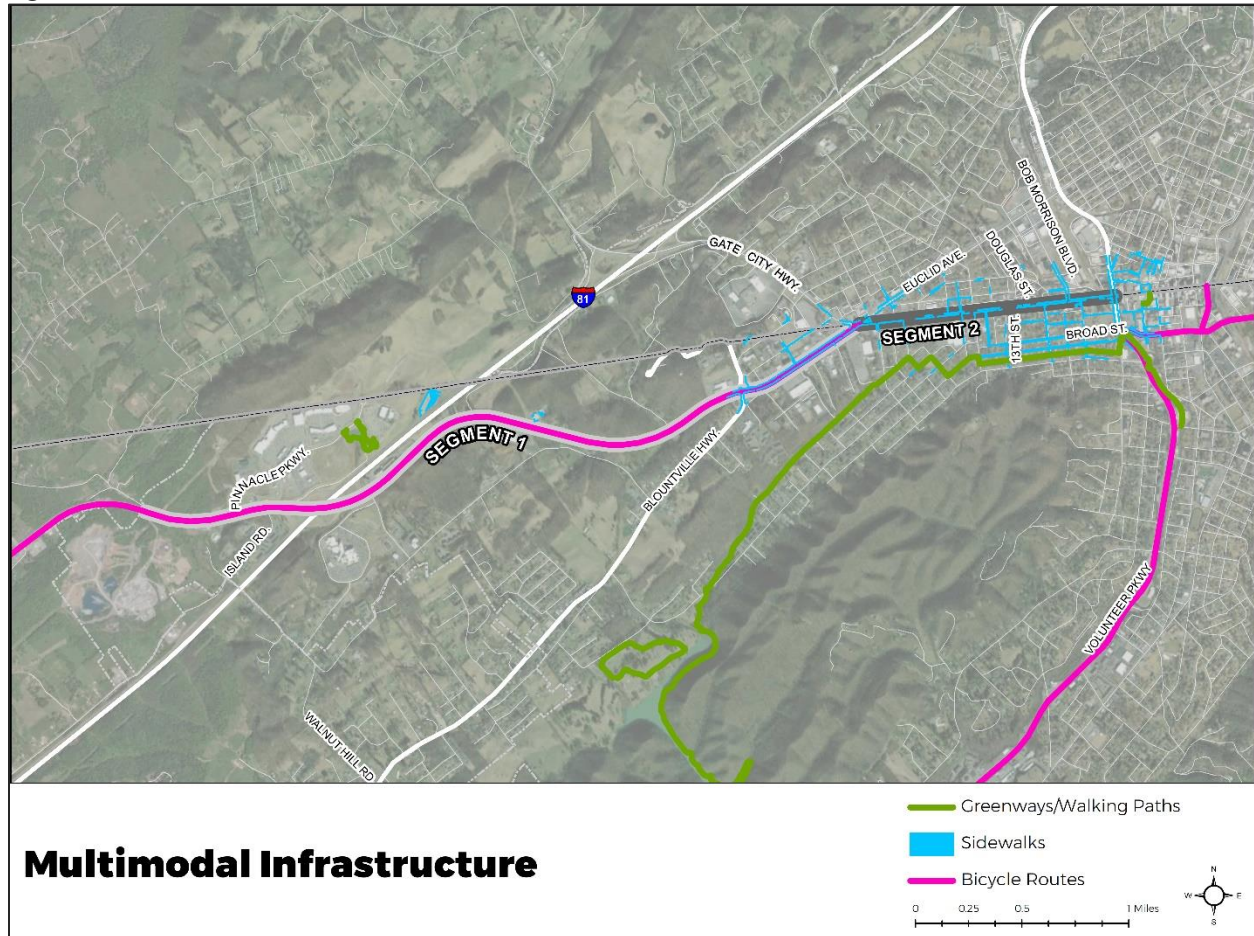
Figure 11. 2045 Level of Service (LOS) - AM Peak



Multimodal Conditions

The bicycle and pedestrian environment around and along West State Street includes sidewalks, greenways, bike routes, and walking trails. Sidewalks are primarily present in Segment 2 where development is denser. A state bicycle route is present along the entirety of Segment 1. Walking trails and greenways do not currently exist directly along West State Street but are nearby.

Figure 12. Multimodal Infrastructure



Pedestrian and Bicycling Facilities

The City of Bristol maintains a sidewalk inventory of existing sidewalks. The information included in Figure 12 has been simplified to better observe the location of sidewalk gaps within one quarter of a mile of the corridor study area.

Segment 1 – Segment 1 sidewalks are concentrated beginning at the intersection of Blountville Highway and continue east through Segment 2. A narrow grass buffer is also present. Sidewalks are also present at the Pinnacle near Segment 1. The sidewalks within the Pinnacle development provide internal pedestrian circulation, but do not connect pedestrians to nearby areas.

A bicycle route exists along the entirety of Segment 1. A section of this route from I-81 to Euclid Avenue/Gate City Highway was outlined as a high priority bicycle route in the

Bristol *Bicycle and Pedestrian Plan* (2008).¹⁵ This bicycle route includes signage that defines the route and includes a shoulder for bicycle users. The route is defined as the “Far West Bicycle Route” to the east of I-81 and “TDOT Highway 11W” to the west of I-81. Throughout Segment 1, the shoulder often disappears at intersections with the addition of a right turn lane on each side of the road. A sign is included to warn drivers that they should yield to bikes in the right lane.

Segment 2 – Sidewalks exist along the entirety of Segment 2 of West State Street with gaps at driveways throughout the segment. In some areas of Segment 2, sidewalks are indistinguishable from parking lots in front of businesses. The only crosswalk within the West State Street corridor is located at the intersection with Volunteer Parkway/Commonwealth Avenue. The MPO’s RTP includes a recommendation for an additional crosswalk, at the intersection with Euclid Avenue/Gate City Highway. This segment does not have dedicated bicycle facilities.

Greenways/Trails

Walking trails exist near West State Street including at Pinnacle Park and Steele Creek Park. The Mark Vance Memorial Greenway exists to the south of West State Street and connects Steele Creek Park to Downtown Bristol. The Bristol Greenways and Trails Plan includes recommendations for three trails or greenways that would connect with West State Street. These are discussed in greater detail in Section 6.

Transit

Transit within the Bristol area includes Bristol Tennessee Transit and Bristol Virginia Transit both of which run three routes. The fare for adults for Bristol Tennessee Transit is 60 cents per ride and Bristol Virginia Transit’s fare is one dollar per ride for adults. Both agencies offer half off for senior citizens, disabled citizens, and people with a Medicare card, and both agencies offer transfers for 10 cents. Bristol Tennessee Transit runs the Hospital Route, Penn Hickory Route, and Southside Route that run from 6:15 AM to 6 PM Monday through Friday. Bristol Virginia Transit runs the West Bristol Route, East Bristol/East Ridge Route, and the Falls/Wal-Mart Route that run from 7 AM to 6 PM on weekdays. All buses arrive and depart from the downtown center in the 800 block of State Street next to the Farmers Market. All routes from both transit providers run hourly during all operating hours.

The Hospital Route serves the West State Street corridor with stops at the Bristol Regional Medical Center, the Pinnacle, and Downtown. The West Bristol Route also serves the corridor with a stop at the Kroger of off Gate City Hwy. Other destinations served by transit that can be reached via transfer include City Hall for both Bristol, Tennessee and Virginia, King College (now called King University), The Falls, the Bristol Mall, and Bristol Industrial Park.

Figure 13. Bristol Transit Map

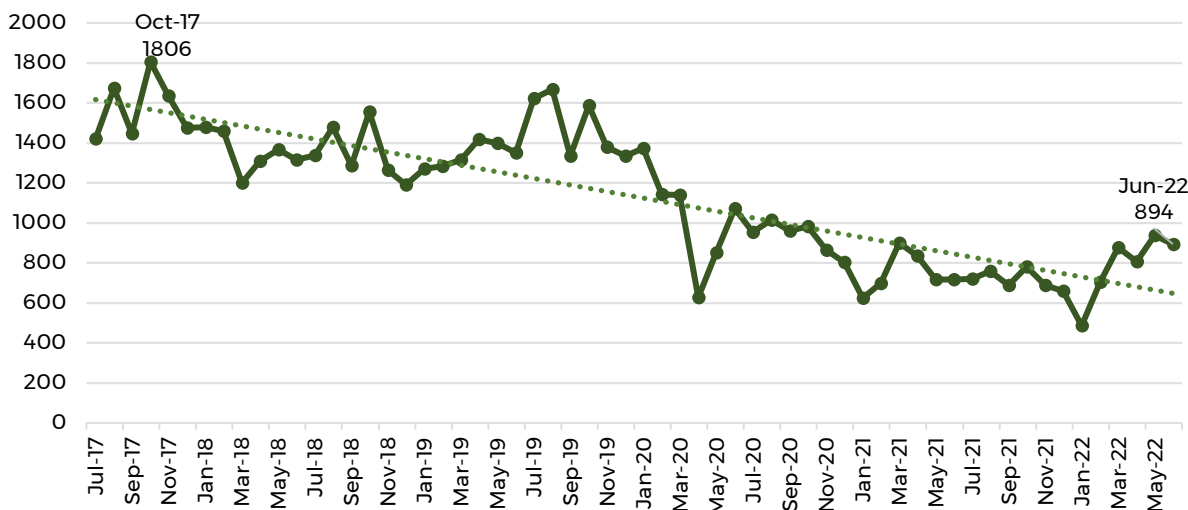


¹⁵ Bicycle and Pedestrian Plan, City of Bristol, May 2008.

Recent ridership data for the Hospital Route was analyzed to understand ridership trends for fiscal years 2018 (July 1, 2017) through 2022 (June 30, 2022).¹⁶ While monthly ridership has experienced modest gains since the beginning of 2022, ridership has steadily declined since 2017. As seen in Figure 14, ridership has declined from a peak of over 1,800 monthly riders in October of 2017 to approximately 900 in July of 2022. Anecdotal data for the West Bristol route, running along Segment 2 and into Virginia, shows average monthly ridership of approximately 1,200 for the months of July through September of 2022.

Additional transit specific analysis may help uncover additional insights into long-term transit trends beyond those observed as a result of the COVID-19 pandemic.

Figure 14. Hospital Route Transit Ridership (July 2018 through June 2022)



Safety

Crash data used in this analysis was obtained from TDOT via ETRIMS and from VDOT via their [Virginia Roads online Crash Analysis Tool](#).¹⁷ Both sources contain georeferenced crash data for all roadways in the state. This analysis focuses on crashes along West State Street and did not review crashes that occurred on intersecting side streets. Crashes were analyzed for a full five-year period from January 2018 through the end of December 2022. During this period, there were a total of 454 crashes along the corridor and one fatal injury crash reported by VDOT in 2018.

Table 7. Roadway Feature by Segment

Segment Breakdown	# of Crashes	Miles in Segment	Annual Average Crashes per Mile of Segment
1	274	3.63	15.1
2	180	1.29	27.9

2019 represented an outlier year during the analysis period, with crashes along Segment 1 increasing by nearly 15% and crashes along Segment 2 increasing by approximately 22% from the previous year.

¹⁶ Fiscal years run from July through June. Therefore, the most recent 2022 data provided is for June of 2022.

¹⁷ VDOT Crash Analysis Tool, <https://www.virginiaroads.org/maps/1a96a2f31b4f4d77991471b6cabb38ba/about>.

Figure 15 shows that crashes have been modestly but steadily decreasing across both segments since 2019.

Figure 15. Crashes per Year (2018-2022)

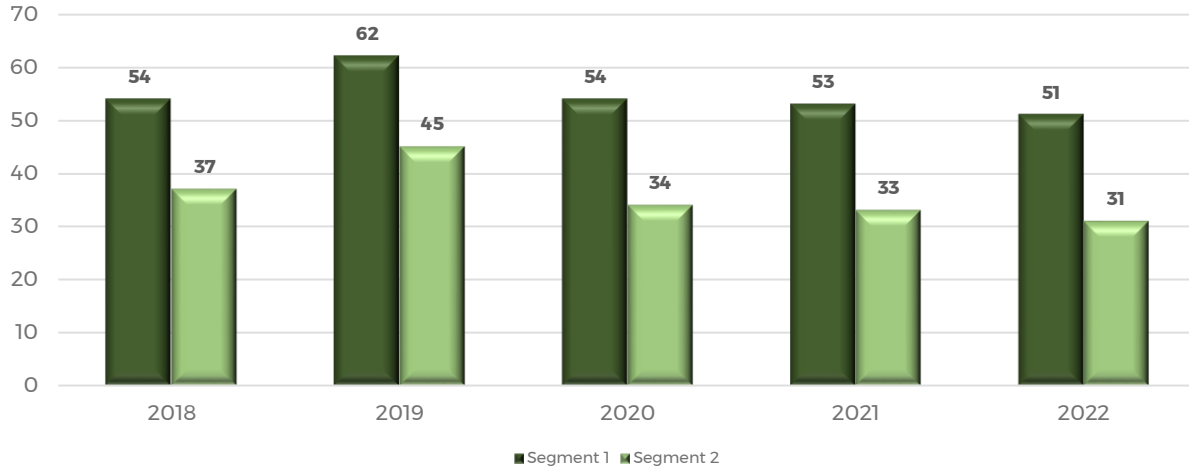
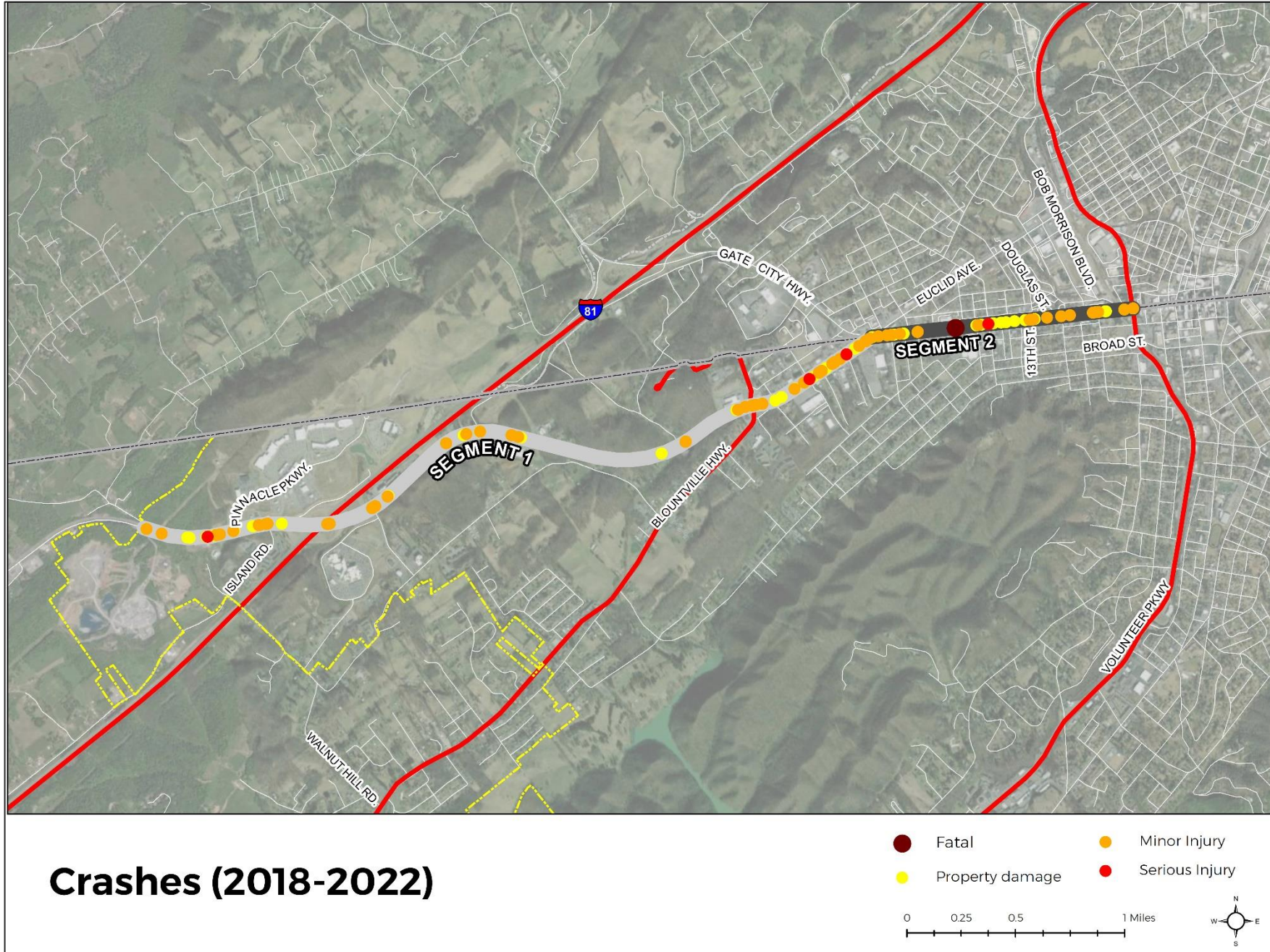


Figure 16 shows the spatial distribution of crashes across both corridor segments. Segment 1 crashes are concentrated west of I-81 near the Pinnacle and Island Road, and east of Blountville Highway. Segment 2 has nearly double the crash density of Segment 1, with crashes occurring frequently throughout the 1.29 mile segment. The fatal crash reported in the analysis period occurred in 2018 and was an alcohol-involved head-on crash. Additional segment specific analysis is provided below.

Figure 16. Crashes (2018-2022)



Segment 1

There were 274 crashes along Segment 1 within the study period. Figure 17 provides a summary of prevalent crash types across Segment 1. The most frequent crash types within Segment 1 were rear-end crashes (116, 42%) and angle crashes (92, 34%). Of the rear-end crashes, 83, or 72% of all rear-ends, were at an intersection.

Most of the crashes along Segment 1 were property damage only (60%). Figure 18 shows that 40% of crashes in this segment have been classified as injury crashes. While there were no fatalities, three crashes were documented as serious injury.

Figure 17. Segment 1 – Manner of Collision

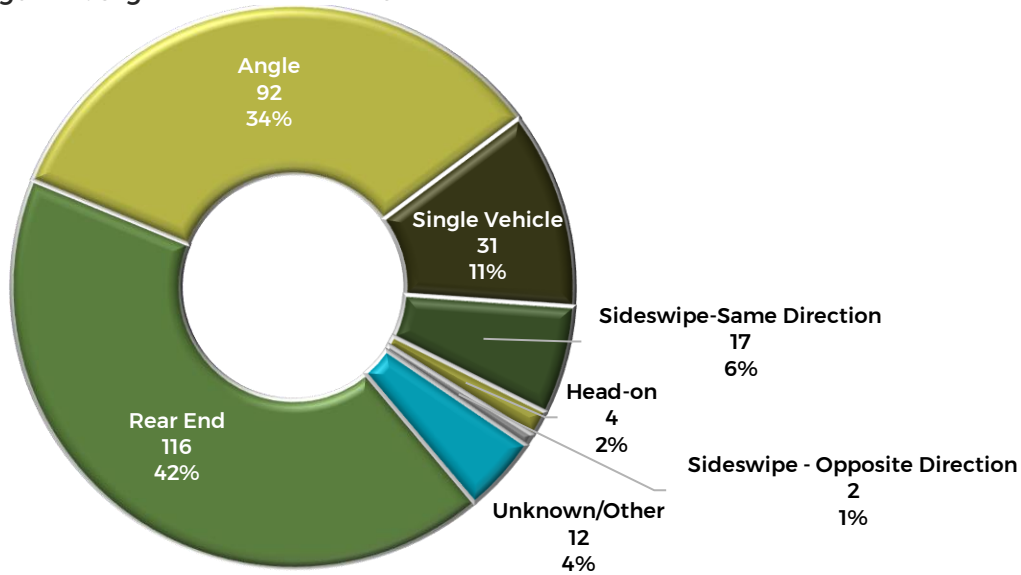
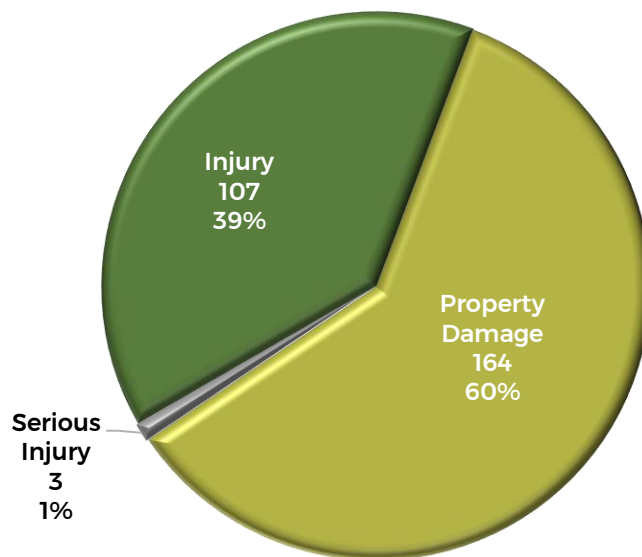


Figure 18. Segment 1 – Crash Severity



Segment 2

There were 180 crashes along Segment 2 within the study period. Figure 19 provides a summary of prevalent crash types for Segment 2. Like Segment 1, the most frequent crash types within Segment 2 were rear-end crashes (94, 52%) and angle crashes (54, 30%). Of the rear-end crashes, 49, or 52% of all rear-ends, were at an intersection.

While most crashes along Segment 2 were property damage only (63%), Figure 20 shows that 36% percent of crashes in this segment have been classified as injury crashes. One serious injury crash and one fatal crash were documented in Segment 2. The fatal crash was reported by VDOT and was a head-on crash that took place in March of 2018 and involved alcohol. The serious injury crash occurred in 2019 and was an angle crash.

Figure 19. Segment 2 - Manner of Collision

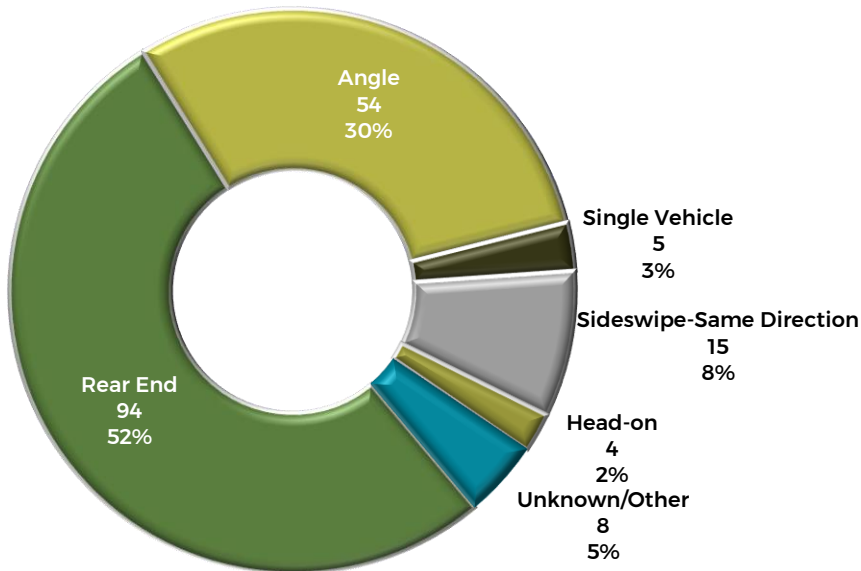
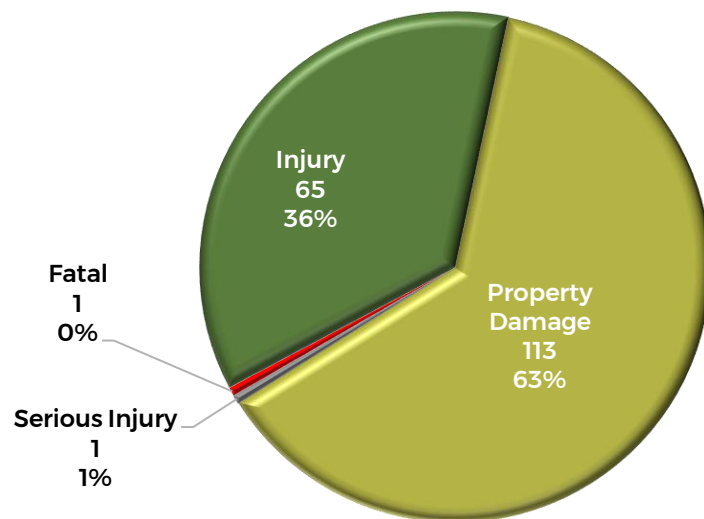


Figure 20. Segment 2 - Crash Severity



4. Zoning and Land Use

Zoning and land use patterns reported in this section focus on information from Tennessee and does not include analysis of land adjacent to the corridor in Virginia. Virginia trends may be analyzed as part of the final report if data becomes available.

Existing Land Use

Current development patterns and common uses across corridors in Bristol, Tennessee, reflect a dynamic blend of residential, commercial, and recreational spaces, with a focus on preserving the City's heritage and fostering economic growth. The following is an overview of the development patterns and common uses in State Street corridor:

State Street, which runs through the heart of Bristol, serves as a significant commercial and cultural corridor. It hosts a variety of businesses, from local shops and eateries to national retailers. State Street is also known for its annual Rhythm & Roots Reunion music festival, drawing visitors from across the region.

While zoning information provides details on allowable uses and policies governing property along the corridor, land use data provides additional details regarding the current use of the property. Land use is important because it shows the existing character of a community and it can be used to show that the preferred land use and actual land use do not align in some portions of the corridor.

Segment 1 – The land use along Segment 1 is characterized by commercial and public uses to the west of Interstate 81, vacant land, commercial, agricultural, and low-density residential uses from I-81 to Blountville Highway, and commercial uses from Blountville Highway to the east of Segment 1. Existing differences between approved zoning and existing land use create development opportunities along the corridor. Along Segment 1 these differences include vacant land near the intersection with Shankel Mill Road and agricultural land east of I-81. Commercial expansion could occur in both areas as they are zoned for commercial uses, though topographic and other development constraints would need to be considered.

Segment 2 – The existing land use along Segment 2 is characterized primarily by commercial uses with semi-public and industrial uses also being present. The primary differences between existing land use and zoning are vacant parcels along the corridor. These parcels are candidates for commercial expansion as they are zoned for commercial uses.

Prominent Destinations

Key trip generators along West State Street are concentrated at the west end of Segment 1 and east end of Segment 2. Segment 1 destinations are predominantly located near the I-81 interchange and include the Pinnacle development that includes restaurants and retail, and Bristol Regional Medical Center. The new Hard Rock Hotel and Casino is also located north of Segment 1 just north of the state line in Virginia. A traffic impact assessment (TIA) is currently being conducted to better understand congestion and reliability impacts anticipated with the Casino. Findings and impacts to West State Street gleaned from this assessment should be referenced as part of future discussions related to development of preferred recommendations from this study.

Segment 2 is home to a variety of retail and commercial uses. Key trip generators along Segment 2 are concentrated at the eastern end of the segment and include Downtown Bristol and civic spaces including city halls for both Bristol, Tennessee, and Virginia. Downtown Bristol is located just east of the Segment 2 and includes restaurants, retail, and other commercial activities including theatres and a farmers' market.

The prominent destinations along **Segment 1** include the Pinnacle, Bristol Regional Medical Center, and Steele Creek Park. The Pinnacle, located near the west end of Segment 1 to the west of I-81, is a commercial development that includes retail stores, food services, financial institutions, entertainment and recreation, and Pinnacle Park (a walking trail and water feature associated with the development). The Bristol Regional Medical Center, located to the south of West State Street and east of I-81, is a key destination and a large employer in the area. Steele Creek Park, located to the south of West State Street, is a regional park that encompasses more than 2,200 acres of land, serving people living along the West State Street corridor. Some of the amenities in the park include hiking trails, a nature center, a lake, and gathering places including shelters. The Hard Rock Hotel and Casino is located north of Segment 1 in Virginia, off of Gate City Highway.

Segment 2 destinations center around Downtown Bristol immediately east of the corridor's easternmost terminus. Downtown Bristol is a historic area that includes retail shops, food service, entertainment, and recreational facilities. Attractions in Downtown include the historic Bristol Train Station, Paramount Center for the Arts, the Birthplace of Country Music Museum, and the landmark electric Bristol Sign. Local stakeholders and community members have made a concerted effort over the past several years to expand the amenities, look, and feel of Downtown westward throughout Segment 2 through various planning and economic development initiatives.

Zoning

The Bristol, TN zoning ordinance divides the City into zones, each with its own permitted uses. Common zones include residential (for housing), commercial (for businesses), industrial (for manufacturing), historic (for preservation), mixed-use (for a blend of uses), and open space (for natural areas). Some areas may allow special use permits for unique activities.

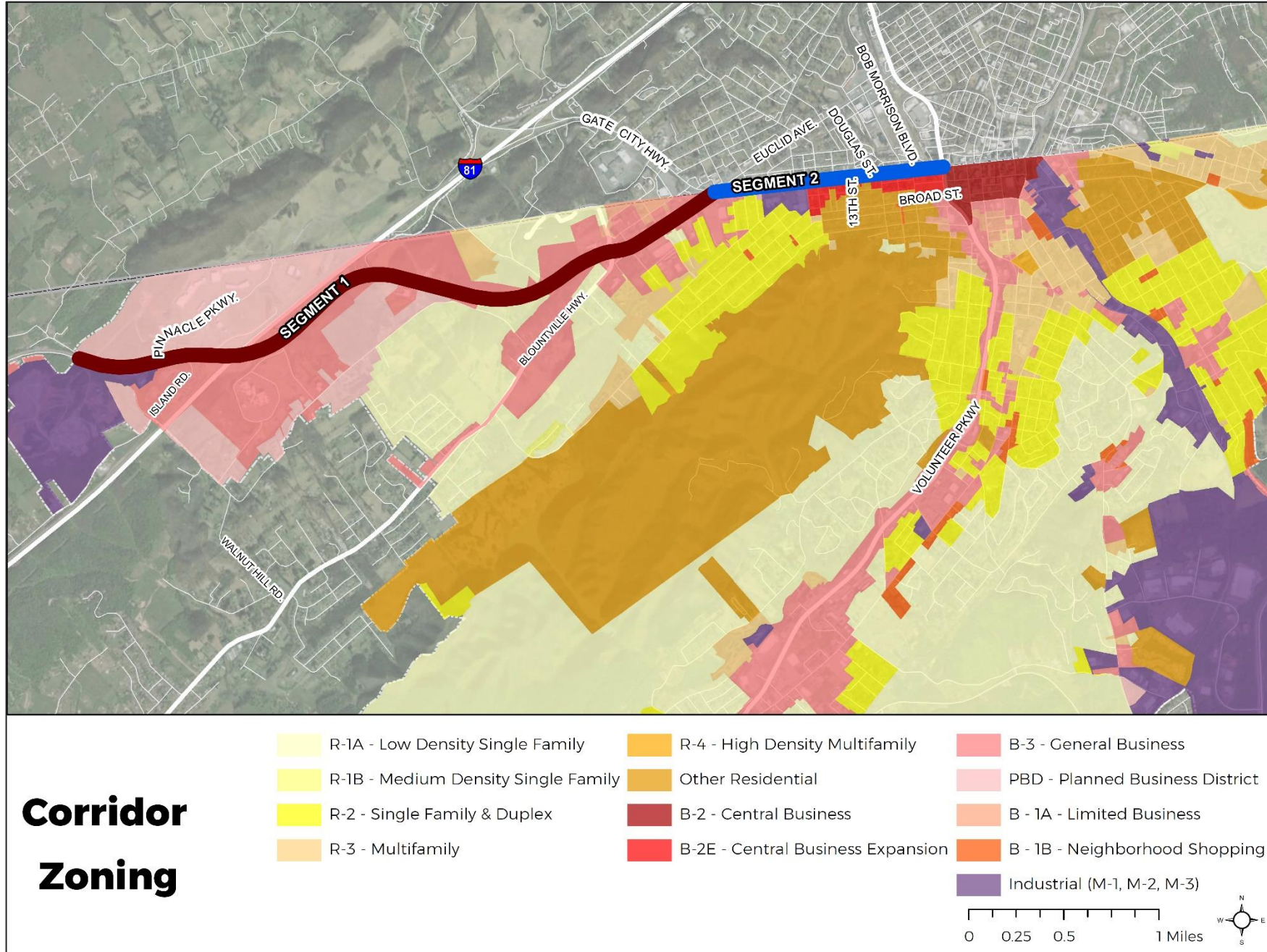
Local municipalities have governance over land use patterns through local zoning ordinances. Zoning ordinances control how geographic areas can be used and the density at which development may occur. Zoning ordinances are not rigid as they can be amended to encourage particular types of development. An example of this in Bristol is the introduction of the Central Business Expansion district along West State Street from Volunteer Parkway/Commonwealth Avenue to 18th Street meant to promote high-density commercial development.

The City of Bristol, Tennessee's [Zoning Ordinance](#) was updated in November 2022 and establishes zoning districts within the limits of the City.¹⁸ The purpose of the ordinance is to promote the health, safety, and welfare of the City of Bristol. The plan's districts take into account the character of each district, its suitability for particular uses, and its relation to the land use plan for the City. The ordinance regulates use, off-street parking, and space requirements including setbacks, height, building area, and lot space.

Figure 21 displays zoning designations for Bristol, Tennessee along the West State Street corridor.

¹⁸ Zoning Ordinance, Bristol, Tennessee, November 2022, <https://www.bristoltn.org/DocumentCenter/View/9907/Zoning-Ordinance-112022-through-Ordinance-22-14>.

Figure 21. Corridor Zoning



General characteristics of the zoning districts within the study area are outlined below.

- ❖ **Low Density Single Family:** This district is primarily to accommodate single-family dwelling units at a maximum density of three units per acre. Permitted uses include open land uses and single-family dwellings.
- ❖ **Medium Density Single Family:** This district is primarily to accommodate single-family dwelling units at a maximum density of six units per acre. Permitted uses include open land uses and single-family dwellings.
- ❖ **Single Family and Duplex:** This district is primarily to accommodate single family and duplex units at a maximum density of nine units per acre. Permitted uses include open land uses, single-family dwellings, and two-family residential structures.
- ❖ **Multifamily:** This district is primarily to accommodate moderate density multifamily residential development which may be interspersed with duplex and single-family development. Maximum density is thirteen units per acre. Permitted land uses include open land uses, single-family dwellings, two-family residential structures, multifamily residential structures, zero lot line developments, and assisted living facilities.
- ❖ **Established Residential Neighborhood:** The intent of this district is to accommodate the development patterns of existing neighborhoods where 85% of the lots were developed prior to 1950 and a majority of the developed lots are less than 7,500 square feet. Permitted uses include single-family dwellings, two-family dwellings, and public parks.
- ❖ **Light Industrial:** This district provides a place for specified industrial uses which do not emit excessive amounts of fumes, noise, heat, glare, odors, or dust. Permitted uses include auto body shops, animal clinics, public buildings, and warehouses.
- ❖ **General Industrial:** This district provides a place for uses which create a moderate environmental impact and uses that should be separated from other land uses in the City. Permitted uses include all manufacturing, repair, and cleaning, utilities, and warehouses.
- ❖ **Limited Business:** This district will accommodate and protect the development and maintenance of certain relatively homogeneous use categories including medical and related uses, as well as offices and institutions, with some compatible light commercial establishments. Permitted uses include single-family and two-family residences, food services, and limited retail trade.
- ❖ **Neighborhood Shopping:** This district is to accommodate light commercial and office uses. Permitted uses include retail trade, food services, single-family and two-family residences, and ambulatory health care services.
- ❖ **Central Business:** This district is assigned to the downtown business area and is intended for uses which benefit from a central location, and which provide goods and services used by the entire community and its surrounding area. Permitted uses include automobile sales, banks, hotels, indoor theaters, public buildings, and retail businesses.
- ❖ **Central Business Expansion:** The purpose of this district is to preserve the character and densities of this historically compact and linear area of the City. Permitted uses include single family residential and duplexes, multifamily residential, retail trade, arts, entertainment, recreation, and food services.
- ❖ **General Business:** The purpose of this district is to accommodate a variety of commercial uses and is especially designed for uses which do not require a central location. Permitted uses include animal clinics, auto sales, banks, bus terminals, places of worship, hotels, and retail businesses.
- ❖ **Planned Business District:** The district is meant to provide optional methods of land development encourage imaginative solutions to environmental design problems. This district permits the placement of buildings on land without adherence to the conventional lot-by-lot approach based on an approved development plan. Flexibility is provided in the building site by the grouping of units to create more useable open space. Permitted uses include all uses allowed in all other business districts.

Segment 1 Zoning – Segment 1 is characterized predominantly by general business and planned business district near I-81, with light industrial land at the western edge of Segment 1. The planned business district differs from traditional zoning as it does not use a lot-by-lot approach, but instead permits the placement of buildings based on an approved development plan. Low density residential is present north and south of the corridor.

Segment 2 Zoning – Segment 2 is largely characterized by central business expansion and industrial immediately adjacent to the corridor, and residential south of the corridor. The City’s *West State Street Land Use and Redevelopment Report* ultimately led to the adoption of the central business expansion district throughout much of Segment 2.¹⁹ A large portion of the area is zoned as “other residential” because Steele Creek Park is currently zoned as mountainous residential.

Future Land Use

As laid out in the *Bristol Becomes*, West State Street was identified to be “master planned” to promote complete street designs with multiple modes of transportation. It had long been the desire of the City to promote a multimodal corridor in their Downtown and the land use is in place to make this a reality.

In 2020, the City of Bristol adopted their Future Land Use Plan to guide the future growth of the community in a manner that embraces the Vision Statement of the City of Bristol:

Propelling an engaged community of innovation that celebrates heritage, culture, and natural beauty.

Several policies outlined within the plan may impact recommendations for West State Street. These policies include the following:

- ❖ Provide sufficient park and open space to satisfy the recreational needs of the community.
- ❖ Provide a housing inventory that is diversified in dwelling unit type, size and design, attracts new residents, and creates a high quality residential environment.
- ❖ Sustain existing commercial areas while providing for adequate and compatible growth and expansion.
- ❖ Provide land and infrastructure to sustain and promote industrial growth.
- ❖ Create a vibrant, social, living, and entertainment destination Downtown which includes a mixture of retail, restaurant, residential, lodging, and business uses.
- ❖ Encourage the redevelopment of underutilized land and building to capitalize on existing infrastructure and services.
- ❖ Provide sufficient land and infrastructure to stimulate and support a mixed-use medical district with compatible commercial and residential growth in the hospital vicinity.



The plan identifies property immediately adjacent to both Segments 1 and 2 of the corridor for commercial uses, with low density residential, industrial, and limited medium and high density residential uses surrounding the corridor throughout Segment 1. Medium density residential is the primary land use for land that is not directly adjacent to the corridor throughout Segment 2. Generally speaking, the City’s future land use plan does not significantly differ from existing zoning designations

¹⁹ *Land Use and Redevelopment Report*, City of Bristol, Tennessee, Economic Development and Community Development Departments, September 2017.

but does provide an opportunity for additional development and redevelopment opportunities in select areas of the corridor.

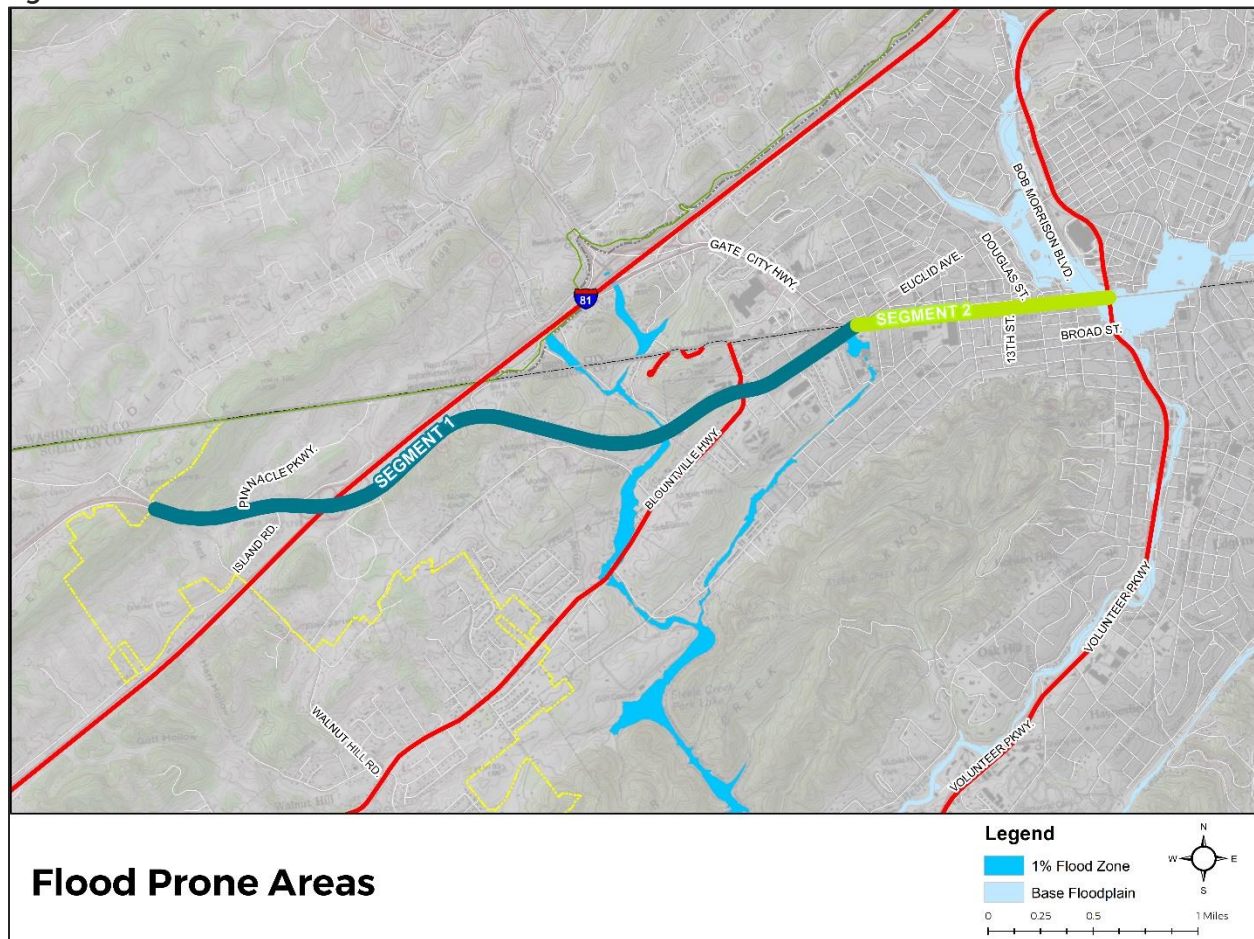
Development Constraints

Flooding and Topography

Flooding should be a major consideration when analyzing the risks associated with development and limits the opportunities for future development. The Federal Emergency Management Agency (FEMA) develops maps that identify areas that are at risk of flooding including 500-year floodplains, 100-year floodplains, and floodways. Two 100-year floodplains cross West State Street within Segment 1 at Shankel Mill Road at the Steele Creek crossing and west of the intersection with Euclid Ave/Gate City Highway. There is one floodway that crosses West State Street near the end of Segment 2 at the Little Creek crossing. See Figure 22.

While no geospatial shapefiles are available, a site visit noted topographical concerns for development along Segment 1 as intermittent steep slopes exist along West State Street from the beginning of the study area to the intersection with Blountville Highway and may not be suitable for development.

Figure 22. Flood Prone Areas



Historic Sites and Districts

There are three historic sites and four historic districts near the West State Street study area. The three historic sites and four historic districts are all located just east of the end of Segment 2 in the Downtown Bristol area. The sites include the United State Postal Service (USPS) Office at Shelby Street, the King-Lancaster-McCoy-Mitchell House, and the King-Edward Washington House. The districts include the Solar Hill Historic District, Virginia Hill Historic District, Bristol Commercial Historic District, and Holston Avenue Neighborhood.

5. Engagement and Outreach

Engagement and Outreach Activities

Public Open House

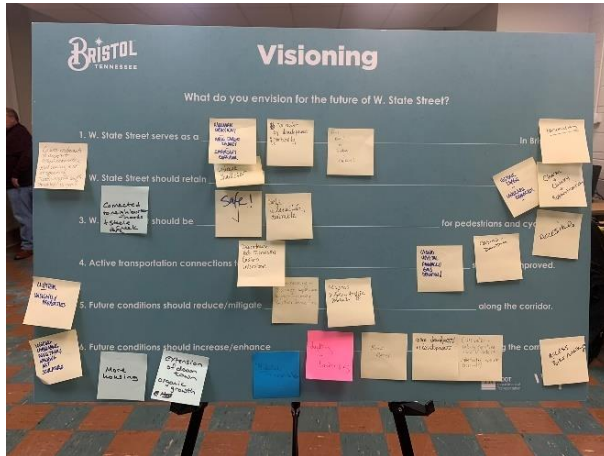
The City of Bristol, Tennessee hosted an Open House for the West State Street Corridor Study on Thursday, November 17th, 2022, from 6:00 to 7:00 PM in the cafeteria of the Slater Community Center. There were approximately 50 people in attendance through the course of the evening. The Open House was advertised through the City's communication channels including a press release, publication to the City's website (www.bristoltn.org) and promoted through the City's social media channels.

The room was organized with a welcome table that included comment cards, sign-in sheets, and handouts for participants. The City provided an aerial video, from drone footage, for participants to familiarize themselves with the length of the corridor before walking to stations around the room. The stations included two map tables and six display boards that offered opportunity for members of the public to add their comments through sticky notes or writing directly on the boards or maps.

The maps were broken into one for each segment of West State Street, Segment 1: from the western edge of the City to Euclid Avenue/Gate City Highway and Segment 2: from Euclid Avenue to Volunteer Parkway. Comments regarding Segment 1 included improvements to greenspace and landscaping, improved street lighting, traffic concerns and issues with turns at various points, and the need for bike lanes. Segment 2 comments focused on multimodal improvements for both cyclists and pedestrians, concerns about confusion over pavement markings, intersections and turn movements, additional lighting was recommended, and development should be an extension of downtown.



The other input captured at the public meeting included that West State Street is an important corridor in the community with development potential, while acting as a gateway. The street should keep its personality, especially historic resources, and landscape. The street should be safe for pedestrians and cyclists and active transportation connections to the hospital, downtown, the casino and the Pinnacle should be improved. Future conditions should reduce clutter, hazards and help people find their way; additionally, there is interest in more housing, lighting, landscaping, bike trails, sidewalks, crosswalks and art.



The West State Street Corridor Public Open House received good coverage from the local media for Bristol, including stories by:

- ❖ WJHL Tri-Cities News, CBS and ABC Affiliate
- ❖ WCYB Tri-Cities News, NBC affiliate
- ❖ Bristol Herald Courier

Several of these stories also included information about the subsequent online survey as another tool to gather public input into this corridor study.

A second public input session was held on November 16, 2023 at the Paramount Theater that provided an opportunity for stakeholders and the general public to provide comments on the draft

planning document. No formal comments were received as part of this public input session.

Online Survey

The online survey went live on Monday, February 13 and was available for participation through Tuesday, March 28, 2023. The survey had 495 respondents and was publicized at the Public Meeting and through the City’s media and social media channels. The survey used MetroQuest an online platform “specifically targeted to collect public input data for more informed and equitable transportation planning”. The welcome page notified participants that the City of Bristol, Tennessee identified West State Street for a corridor study that will support and encourage redevelopment of the corridor as a central spine of commerce, tourism, and economic growth. The broad goal of the survey was to understand participants preferences and elements that are important to them for the two segments of the corridor.

As in the Public Meeting and Stakeholder Meetings, Segment 1 was identified as: a Highway Corridor: Four-lane divided highway portion of West State Street from the western city limits to Euclid Avenue/Gate City Highway, Tennessee. Whereas Segment 2 was defined as a Downtown Extension: Euclid Avenue/Gate City Highway to Downtown Bristol, Tennessee/Virginia state lines.

The survey had three tabs of feedback including **Options (Priority Ranking)**, **Areas of Interest (Map Marker)** and **Standard Survey**. The Options tab included twelve key items or strategies for improvements of the corridor and participants were able to rank their top six choices from the following items:

- ❖ Gateway features can create a sense of entry and arrival for a place, reinforcing identity and branding for a community. Bristol has an iconic Gateway feature in its downtown – should another be added in Segment 1 of West State Street?
- ❖ Lighting can enhance safety. Light poles can support beautification initiatives by adding hanging planters and banners.²⁰
- ❖ Street furniture not only creates a space for social interaction but having innovative seating designs can enhance the beauty and character of a space.

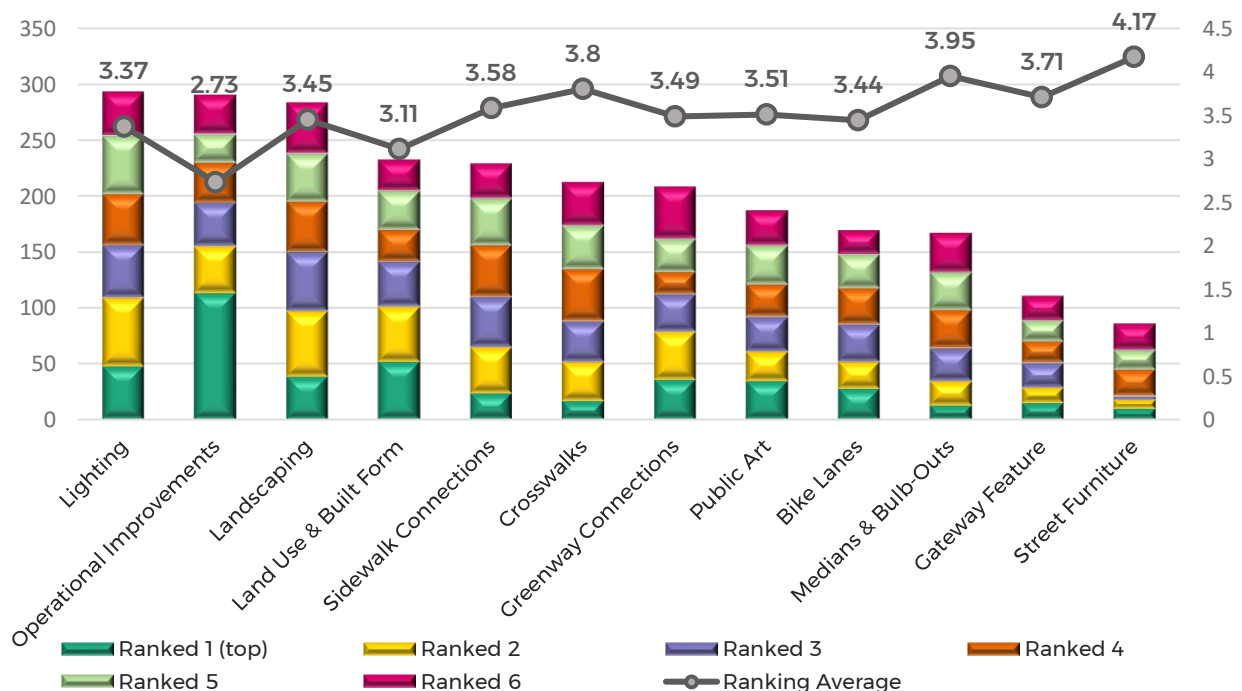
²⁰ Please note that Segment 2 includes wooden streetlight poles with PVC pipes that stick up at the poles. These were installed in 2008 to prevent tearing up of sidewalks if and when the wooden streetlight poles were replaced.

- ❖ Public art adds character, creates a sense of space, contributes to the community’s identity, and can become landmarks.
- ❖ Landscape enhances the character, while trees provide shade, creating a pedestrian friendly environment.
- ❖ Improve existing sidewalks, fill-in gaps, and provide pedestrian access to neighborhoods, shopping and jobs.
- ❖ Enhance or add crosswalks that are clearly marked and easily visible to motorists, supporting pedestrian safety.
- ❖ Greenways connect existing and future resources, such as jobs, shopping, residential and downtown with a safe bike and pedestrian connection.
- ❖ Dedicated bike lanes provide safety for cyclists and can encourage non-professional or casual riders to use it as a mode of transportation along the corridor.
- ❖ Medians can create refuge for pedestrians at crosswalks and may include landscaping. Bulb-outs can provide shortened crossing distances, and create an opportunity for landscaping, outdoor seating, public art and gathering spaces.
- ❖ Operational improvements focus primarily on enhancements for vehicular travel - additional signals, widening or narrowing lanes, and intersection improvements.
- ❖ The City of Bristol has an existing wayfinding system that helps people navigate throughout the West State Street Corridor. Additional sign types for parking, pedestrian kiosks, and/or others may provide additional benefits to the system.



The most requested item from these rankings were broken into two categories – **Response Rate**, the number of times an item ranked in the top 5; and **Average Rank** the higher the ranking, the lower the score of the item (the closer to 1 the more preferred).

Figure 23. Response Rate and Average Rank of Options



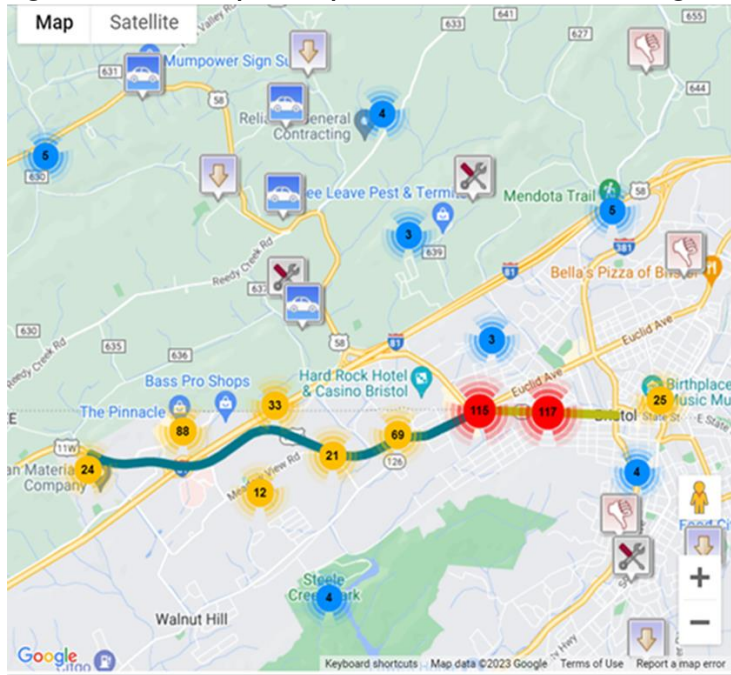
Lighting was the number one item, being prioritized by 293 responses. Operational improvements with 290 responses and Landscaping with 283 rounded out the top three Response Rate items. In terms of Average Rank, priority was given to Operational Improvements with a ranking of 2.73, Land Use and Built Form was second with a ranking of 3.37 and Lighting was third with an average rank of 3.37.

In addition to selecting these items as priorities, survey respondents were able to provide brief comments on the items to provide clarity and why they selected a particular response. Comments are summarized as followed for the top six responses:

- ❖ **Lighting** – Both Segments, Design/Aesthetics, Safety
- ❖ **Operational Improvements** – More turn lanes (Segment 1), Multimodal and Transit, Well-lit parking areas and garages
- ❖ **Landscaping** – Both Segments, Medians, Sidewalks
- ❖ **Land Use & Built Form** – Multi-level and mixed use, Affordable Housing, Local/Small Businesses, Parks/Recreation
- ❖ **Sidewalk Connections** – Both Segments, Walkable
- ❖ **Bike Lanes** – Both Segments, Bikeable

The next tab of the survey was the Map Marker which included the opportunity to mark destinations, travel, and preferred improvements. There were over 800 map markers (813) provided by survey respondents.

Figure 24. Heat Map for Improvements and Issues along West State Street

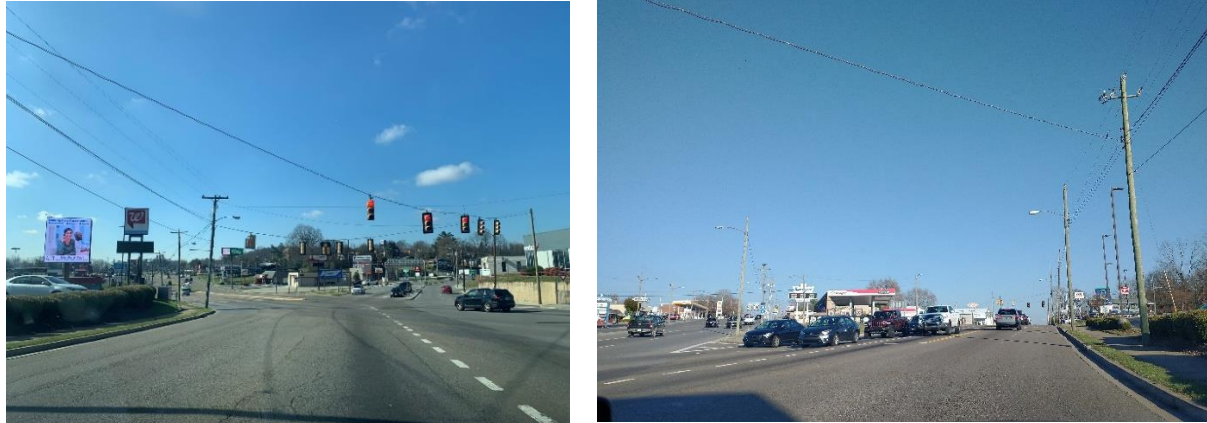


Similar to the Options/Priority Ranking Tab, respondents were provided an opportunity to include brief comments about the corridor to explain their map marker. For Segment 1, west of I-81 near the Pinnacle Shopping area, comments included: general traffic concerns; backups at the Interstate ramps; concerns regarding intersection operations at Steven’s Trail and Island Roads; delays with getting on West State Street; noted that there is no multimodal access to Pinnacle; and desires for an upscale grocery such as Whole Foods or Publix. In Segment 1, east of the Interstate to Gate City Highway, comments included noting the lack of a turn lane at Shankel Mill Road and the desire for improved turn lanes in general; the 45 MPH speed limit is considered a speed trap due to the wide median and minimal development in this section of the corridor; it was noted that there are no walking or biking

options until Blountville Highway; and crosswalks are desired at Skateway Drive/Memorial Drive and Carson Lane.

The intersection of Euclid Avenue/Gate City Highway (four-lane divided), and West State Street received the second highest number of comments. It is a relatively confusing intersection, where West State Street transitions from a four-lane divided highway to a two-lane undivided roadway. Moving east from this intersection the Tennessee/Virginia state line runs the down the middle of the roadway. Several comments noted issues with bottleneck conditions, congestion, and design. Additionally, it was noted that this intersection was particularly unsafe for pedestrians with no crosswalks provided and many segments having four or more lanes to cross.

Figure 25. Views of the intersection of Euclid Avenue and Gate City with West State Street.



In Segment 2, east of the Euclid Avenue/Gate City Highway intersection, there were requests for both wider sidewalks and bike lanes. Crosswalks were specifically requested at Bob Morrison Boulevard and 20th Street. Comments also noted the lack of aesthetic appeal and pedestrian friendliness in this section. Comments noted the desire to attract people to this area and not to divert them to alternate routes. Several comments noted the desire for safer turning movements, for example at Bob Morrison Boulevard, provide a wider turn lane, 18th Street needs a red light, 24th Street routinely backs up. This segment was described as “stressful” and in need of maintenance, noting the faint pavement markings and potholes. Several comments focused on the need for redevelopment of properties, including uses such as restaurants. Lighting was also recorded as a need for this section of the roadway and that the lack of lighting makes the area feel unsafe after dark. One comment noted on aesthetics, that there were “too many” surface parking lots along this segment. This section of the survey had 251 comments for improvements to the area and 188 issues recorded a percentage breakdown is shown in the pie charts below.

Figure 26. Comments by Improvement Category

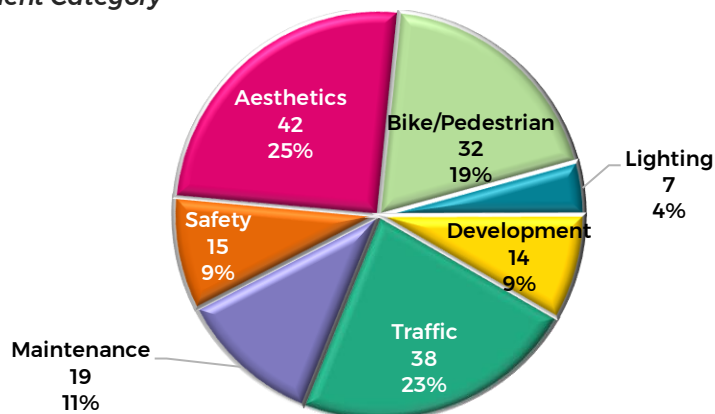
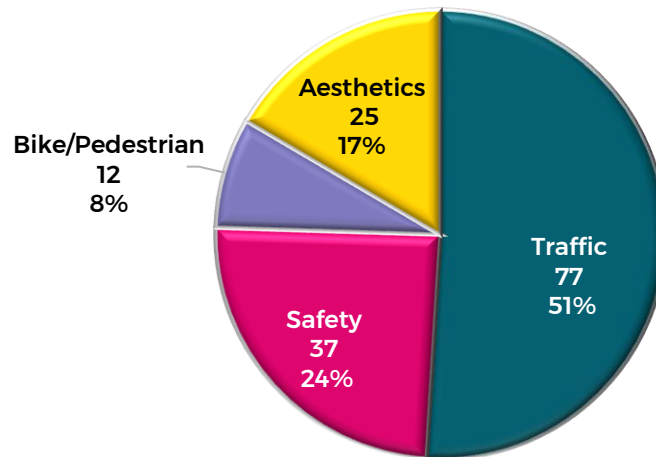
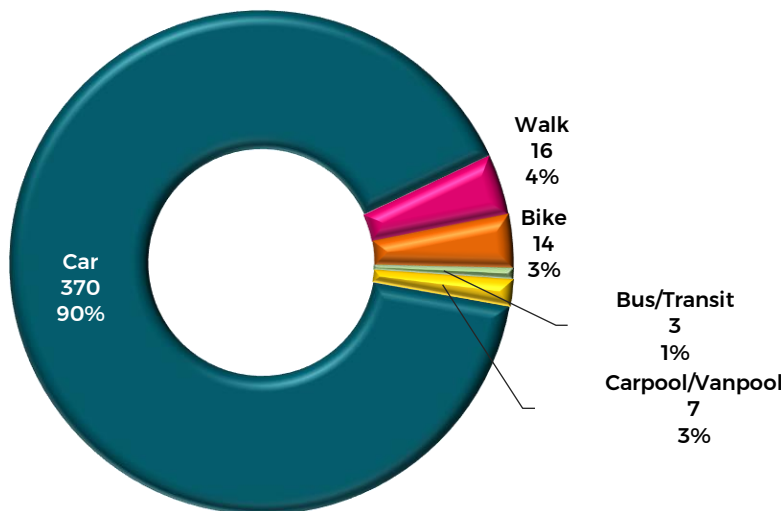


Figure 27. Comments by Issues Category



The last section of the survey asked participants for their thoughts of how West State Street currently functions and what it could be in the future. As part of this “Standard” portion of the survey respondents were asked “How do you typically travel the corridor?” By far, the majority of users are personal vehicle users at ninety percent, however, ten percent of the corridor users are typically utilizing alternative modes of transportation.

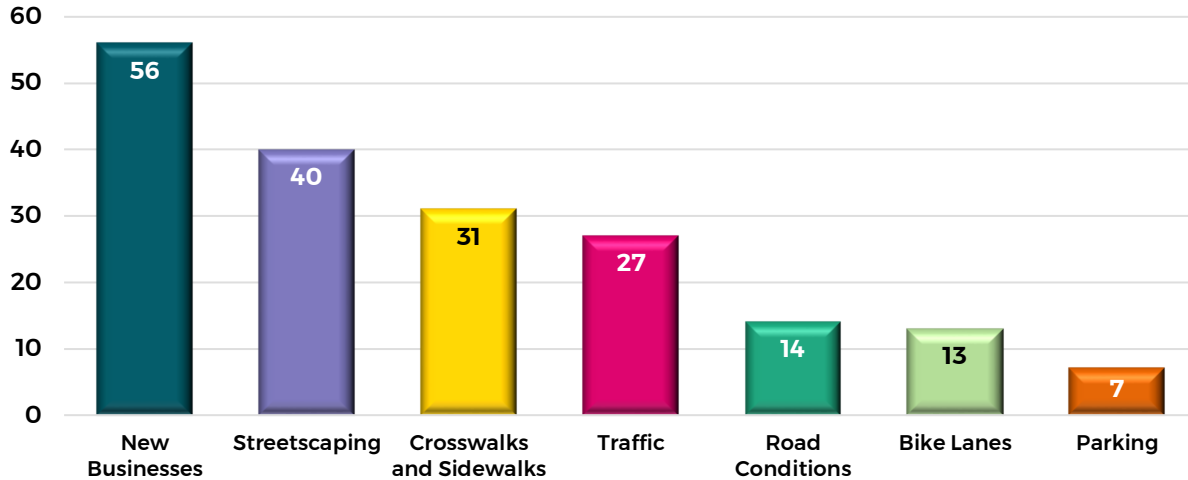
Figure 28. Typical Modes of Travel along West State Street



Additionally, the survey offered the opportunity for participants to share the types of improvements that they would like to see along the corridor. The majority of comments centered around new businesses and included desires for more mixed uses, entertainment, farmers markets, and restaurants, see Figure 29. This shift in uses could make the area livelier and could improve safety or the perception of safety. Comments about streetscaping included landscaping of medians, street trees, and bike and pedestrian safety enhancements, along with public art, and lighting. There was significant support for additional crosswalks and sidewalks, as well as off-road facilities like Mark Vance Greenway. Bike lanes

were noted as desired especially closer to downtown. Traffic and road condition comments noted desires for wider lanes, better traffic flow, but also slower traffic with street trees (this question did not ask respondents to specify Segment 1 or Segment 2 of the corridor). Parking was also discussed in this section with some comments recommending removal of on-street parking.

Figure 29. Types of Improvements Requested



The survey concluded with fill in the blank responses, the top responses are provided below:

- ❖ West State Street serves as a Connection/Pass through in Bristol. (56 responses or 32%)
- ❖ West State Street should retain Local Businesses. (41 responses or 31%)
- ❖ Future conditions should increase/enhance Beauty and Greenery. (38 responses or 29%)
- ❖ Active transportation connections to the Pinnacle should be improved (33 responses or 29%)
- ❖ Future conditions should reduce/mitigate Traffic on the corridor (62 responses or 49%)
- ❖ West State Street should be Safe for pedestrians and cyclists (88 responses or 53%)

Stakeholder Meetings

The City of Bristol hosted a series of Stakeholder meetings at the Slater Community Center on October 25, 2022 to engage stakeholders for their input regarding West State Street. WSP provided a brief overview of the West State Street Corridor Study, including discussion of scope, schedule and TDOT requirements for the Transportation Planning Grant. Stakeholder groups were identified by the client and included City Staff, Community Organizations, Property Owners and a City Council work session.

A handout was provided to each participant summarizing the two segments of the corridor, announcing the public open house, providing contacts for follow-up and asking about the following items: primary destinations, do they differ in Segment 1 versus Segment 2, future development, travel mode, and resources for modes.

The conversation with City Staff noted that West State Street is a gateway into downtown and there is a desire for sustainable landscaping, consistent look and maintenance that can be managed with limited funding. For Segment 1, staff noted that there should be intersection improvements at Pinnacle Parkway; an industrial access road is planned for Walnut Hill and Island Road; there is a need for tree work along this section, especially due to concerns about snow removal and safety; and expressed concern about truck route and multimodal. For Segment 2, staff highlighted the poor pavement markings; a lack of visual appeal/community character; lot size can inhibit redevelopment; need for off street parking; a road diet was mentioned; freight & commercial vehicles create safety issues; signal coordination between the two cities will be important; concern expressed about multimodal activities due to a lack of facilities for bikes and pedestrians; transit needs include downtown, Pinnacle, Casino and hospital; and housing is a challenge for the community.

Community stakeholders included representatives from Advance Bristol Foundation, Discover Bristol, Bristol Chamber of Commerce, and Believe in Bristol. This group discussed some of the positives about West State Street including: uniqueness of state line through the middle of the street, prime location connecting to downtown, downtown is walkable, and opportunity for development/investment with the connectivity to downtown, Pinnacle, Casino and hospital. Some of the negatives included congestion and traffic backups, Segment 2 is not as walkable and aesthetically pleasing as downtown, older buildings need façade improvements, on-street parking is confusing with pavement markings, bike and pedestrian safety concerns and the intersection with Gate City Highway and Euclid needs signal improvements and potential modifications. The group agreed that continuity from downtown is important.

The group of property owners and developers noted that downtown and the Pinnacle shopping center act as bookends along the West State Street corridor. There was desire for more vehicular travel reliability along the corridor; provide a more aesthetically pleasing corridor (suggested public/private partnerships and Tax Increment Financing as tools); and better infrastructure to support development. Problems along the corridor include inadequate infrastructure, topographic issues, buildings right up against the roadway and lack of connectivity to downtown. In terms of transit, this group felt that there was a need to provide an appeal for transit service for example a double-decker bus, trolley, or a place to drink.

WSP provided a brief overview of the West State Street Corridor Study to the Bristol, Tennessee City Council in a work session at the Municipal Annex Building and included some of the feedback from

West State Street Corridor Study
Bristol, TN

The City of Bristol has identified West State Street for a Corridor Study that will support and encourage redevelopment of the corridor as a central spine of commerce, tourism, and economic growth. The City is seeking strategies to maximize existing infrastructure, define levels of access and mobility, improve safety, promote efficiencies and identify deficiencies within operations, identify potential future land use, encourage redevelopment and revitalization, and promote place-making best practices within the streetscape to revitalize the corridor as a destination. To support these efforts, Bristol has been awarded a TDOT Transportation Planning Grant (TPG).

What we would like to hear from you

What are your primary destinations on the corridor?

Are your destinations different in Segment 1 versus Segment 2?

How would you like to see the corridor develop into the future?

How do you travel the corridor (drive alone, carpool, walk, bike, etc)?

Would you travel the corridor differently if other resources were available? If so, what?

Public Open House
Thursday, November 17th
6:00 - 7:00 PM
Slater Community Center in the Cafeteria, 325 McDowell St. Bristol, TN 37620

Drop in and share your thoughts

CONTACT
Mary Connelly
email: mary.connelly@wsp.com
Anne Wallace
email: anne.wallace@wsp.com

wsp BRISTOL

Stakeholders captured earlier in the day. City Council representatives provided feedback on the multimodal nature of the corridor for cyclists and pedestrians, including the potential viability of a shuttle connecting prominent destinations. Some sidewalks were recently redone. Above ground utilities are considered an eyesore. Lighting should be improved. Character was discussed including wayfinding, public art, greenspace, and parking. Tennessee side towards downtown has limited parking, while the Virginia side has parking on street – this adds to visitor confusion. A desire for public art was mentioned. Transit was also a topic of discussion including a shuttle service linking key centers for the community. It was noted that transit needs to consider financial viability and providing adequate service for essential workers and those working 2nd or 3rd shifts.

6. Key Themes

The planning process conducted as part of the West State Street Corridor Study built off of comprehensive planning efforts conducted by Bristol, TN over the past several years and leveraged both technical planning analysis as well as in person robust community and stakeholder engagement efforts to determine a vision for the corridor from the Pinnacle shopping center to Volunteer Parkway/Commonwealth Avenue. This section includes a concise overview of key themes from previous planning efforts as well as this corridor study to help the City facilitate conversations and consensus around recommendations included in this document in Chapter 7.

Development Potential Varies by Segment

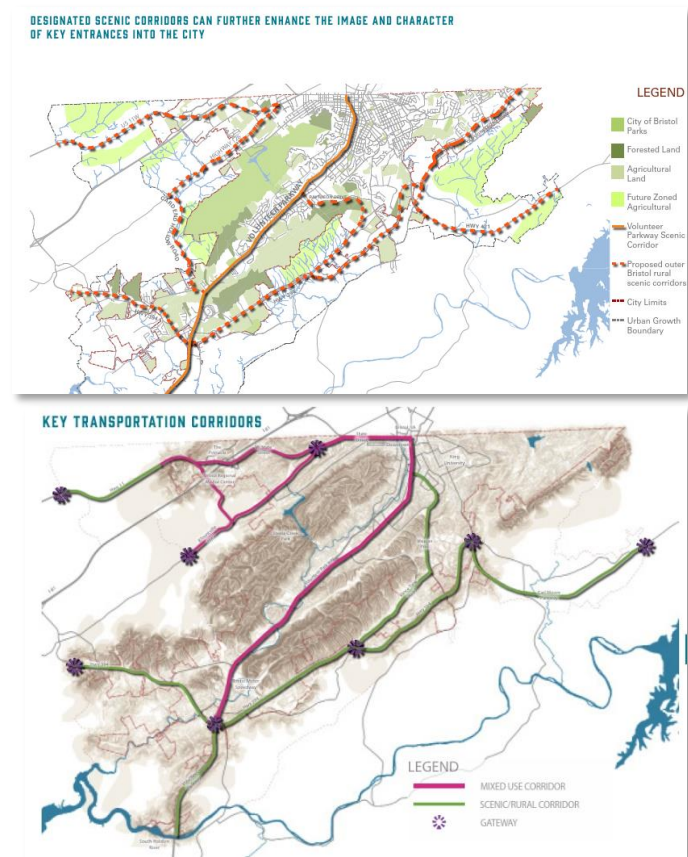
Segment 1 represents a more rural and low-density development pattern of the corridor. Segment 1 from the western City limits to Blountville Hwy has been identified as both a Mixed-Use and Rural Scenic Corridor in *Bristol Becomes*. Rural scenic gateways can promote the outdoors and rural qualities of the City's edges.

Significant topography in Segment 1 may impact the opportunity for development or types of development. Further, the City's *Downtown Development Strategy* included background and recommendations for Segment 2. Segment 2 was recently rezoned as a new B-2E, associated with Central Business expansion and is intended to encourage a more urban form and uses, including allowing parking reduction of 25% and 50%, depending on the specific uses involved. Key recommendations for the corridor from this previous effort included respecting the historic development pattern, potential for walkability, and shared parking.

Bicycle and Pedestrian Needs Focused on Segment 2

Community and stakeholder engagement activities as part of this study yielded valuable feedback and priorities such as improved lighting, beautification through landscaping, enhancing pedestrian safety, and the need for dedicated parking structures. Additionally, feedback received stressed the importance of preserving the corridor's unique character, promoting active transportation connections, and addressing traffic concerns. This feedback reflects the community's collective vision for West State Street, aiming for a more appealing, accessible, and economically vibrant Segment 2 that serves as a welcoming gateway into Downtown.

With Segment 2 receiving most of the public and stakeholder feedback, Bristol has shown this area adjacent to the historic downtown is worth the time and investment to make strong multimodal improvements. Overarching calls for bike and pedestrian elements and upgrades to aesthetics and



Bristol Becomes categorizes much of Segment 1 as a Rural Scenic Corridor and Segment 2 as a Mixed-Use Corridor

design guidelines along West State Street demonstrate that the City must have a clear vision for how to move forward in the area. From online feedback and public meetings to stakeholder discussions and discussions with City staff, Bristol has made it evident that they too desire for more multimodal options in both segments of the study. Bike lanes, sidewalks, crosswalks, and safety improvements are all key elements to of the feedback received form the general public.

Safe and Efficient Traffic Operations Focused on Segment 2

Segment 2 represents a focal point for many City planning efforts over the past several years. Segment 2 also represents the portion of the corridor expected to have greater population growth. The existing cross section and frequent driveways and curb cuts may be contributing to safety issues along the corridor. Approaches from intersecting roads may require spot improvements, including 24th St, 17th St, and Volunteer

Parkway/Commonwealth Ave, while operational issues at the intersection with Euclid Avenue/Gate City Highway may require additional operational improvements.

These priorities may be weighed against several factors, including cost, multimodal priorities, and the City’s preferred vision for Segment 2 of the corridor. While recent planning efforts call for Segment 2 to redevelop and encourage an aesthetic, mixed-use, pedestrian-friendly environment, these priorities must be weight against available funding, engineering feasibility, and the need to maintain safe operations for vehicles throughout the Segment.

D) PLACE-SPECIFIC STRATEGIES

D-1) WEST STATE STREET CORRIDOR (CONTINUED)

Create a “Gateway” to Downtown
Encourage the following businesses:

- Themed restaurant/gas station
- Drive-in restaurant

For more detailed information on these recommendations, see Appendix 2. Market Analysis & Existing Conditions Assessment.

Land Use Pattern Adjustments
Concentrate commercial and mixed-use development at key intersections to create walkable nodes and provide relief from a continuous linear pattern of commercial development.

- In between the commercial and mixed-use nodes at intersections, encourage other uses such as residential and office uses.

Street Design
Three options were considered for redesigning West State Street to be more friendly for pedestrians and cyclists, as follows:

1. Install bike lanes and eliminate on-street parking.
2. Add street trees in bulb-outs with tree wells within parking lanes.
3. Eliminate on-street parking and widen sidewalks.

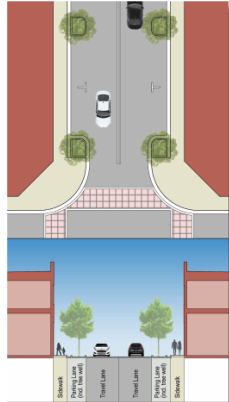
Based in part on stakeholder pushback on the idea of eliminating on-street parking, Option 2 has been selected for pursuit. Period human-

scaled street lighting should also be extended through this corridor. See at right for a cross-section and plan view illustration of the proposed configuration. It is important that the type of streetscape improvements found in the Downtown core for State Street be extended throughout West State Street, including the landscaping and street lighting.

It is also noteworthy that the City’s current bike plan does not propose bike lanes here. That is because the existing bike trail that goes from Downtown to the Steele Creek Park is intended to provide an east-west linkage.

Creation of Shared Parking Lots
Unlike the B-2E zoning for Downtown, this corridor’s B-2E zoning does have off-street parking requirements. However, it also does not require the same parking standards as in suburban environments. Instead, it requires only half of the parking required in other districts for non-residential uses, with the exception of food services. For food services it depends upon the type of dining, as full-service restaurants allow no waivers, but other restaurant types allow less parking.

Explore using parking lots to leverage more re-development. In light of the reduced parking requirements for this corridor and the loss of at least some on-street parking spaces because of the proposed bulb outs with street trees, shared parking lots could be attractive to existing and future property owners. This strategy



This graphic illustrates the proposed street profile for West State Street near the intersection of West State and 17th Streets. It includes a driving lane in each direction, parallel parking on both sides, proposed bulb outs with street trees in tree wells every two parallel parking spaces, and buildings that front onto the sidewalks. New streetlights can actually set back a few more feet than shown and tree bulb outs can be every three spaces as an alternative (every 60 ft.).

The Downtown Bristol Development Strategy (2018) included a land use and street design recommendations to encourage a bicycle and pedestrian friendly environment.

7. Recommendations

When the City of Bristol applied for the funding for the West State Street Corridor Study through TDOT in early 2022, some of the main themes of the application included: identifying deficiencies within roadway operations, managing access points, determining system needs and safety improvements, and maximizing existing infrastructure. These became the primary goals of the study and significantly inform the recommendations described below. It is important to consider that while some recommendations are larger in scale and cost, there are many elements of this Corridor Study that offer the ability to implement operational and safety improvements in the near or medium term. All recommendations, regardless of their time horizons, can benefit the City of Bristol and the citizens that it represents.

The following sections organize recommendations for West State Street into three primary time horizons: **Near-Term Project** which are scheduled for implementation in 2024, **Intermediate Goals** which include transportation and infrastructure improvements that are expected to be feasible within existing right-of-way limits, and a **Long-Term Vision** which reflects a transportation network and amenities that address all the primary goals and objectives initially developed as part of the plan. While the intersection of West State Street and Volunteer Parkway/Commonwealth Avenue was not part of the scope of this effort, any improvements to the corridor should consider this intersection as critical link to the success of the corridor.

Near-Term Project

The Tennessee Department of Transportation (TDOT) is currently working in coordination with Bristol, Virginia, and the Virginia Department of Transportation (VDOT) on resurfacing of Segment 2 from Euclid Avenue/Gate City Highway to Volunteer Parkway/Commonwealth Avenue. This effort aligns with the West State Street study goal of improving safety in the corridor by creating a smoother and more clearly marked Segment 2. It also reflects public comments received through the online survey that described Segment 2 as being “stressful” and in need of maintenance; specifically highlighting worn pavement markings and potholes. Resurfacing is scheduled for 2024 and is focused on improving the ride quality, restoring a uniform cross section and roadway striping, and making it safer for vehicles, pedestrians, and bicyclists.

Intermediate Goals

Intermediate goals are anticipated to be feasible within existing right-of-way limits for both segments. The focus of **Segment 1** is to provide for safety improvements and separate multimodal and active transportation facilities between downtown and the Pinnacle.

Two alternatives are presented for **Segment 2**. **Option A** is geared toward accomplishing study goals related to redevelopment and revitalization, placemaking, and multimodal desires articulated in previous planning efforts. **Option B** focuses on promoting efficiencies and reliability of vehicular travel throughout the segment. Option A may be more suitable if the City desires a walkable, pedestrian friendly extension of downtown with visitors traveling to destinations by foot or bicycle. Option B may be more suitable for a built environment where visitors prefer to use their vehicle to access destinations, or if through traffic is to be prioritized.

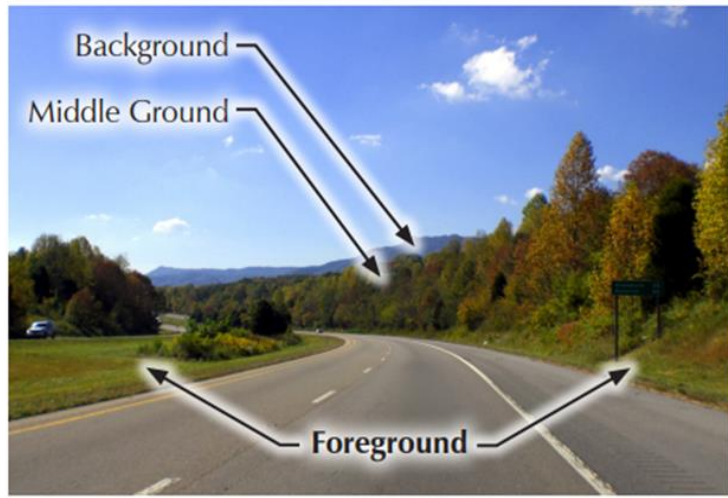
Segment 1

Segment 1 is dedicated to the creation of a safer environment for both pedestrians and cyclists, by separating travelers from travel lanes via a 10-foot multi-use path on outside the westbound lanes of West State Street. The proposal of a 10-foot multi-use path meets the goals of this study by defining

levels of access and mobility in Segment 1 and improving safety of the existing signed bike route along this portion of the corridor. Additionally, public input through the meetings and online survey noted the lack of multimodal access to the Pinnacle development and a desire to be able to reach this shopping destination through alternative modes of transportation. The creation of a multi-use path will provide continuous bidirectional amenities for both pedestrians and bicyclists, though would require bridge widening of the bridge over I-81 to and conversion of the bridge to curb and gutter drainage to accommodate the shared-use path. Figure 30 through Figure 32 shows conceptual renderings of the shared-use path, with additional plan sheets included in the Appendix.

While not specifically called out in the following conceptual plan sheets to maintain clarity for the proposed mixed-use path, it is also recommended that the City of Bristol work with TDOT to implement landscape opportunities within the medians along Segment 1. This effort would enhance the gateway of West State Street from I-81 towards Segment 2. TDOT's Landscape Design Guidelines includes recommendations for various types of corridors using native and naturalized plants.²¹ The use of native and naturalized plants provides multiple benefits including:

- Less overall maintenance
- Water conservation
- Reduced chemical applications (e.g., fertilizers, herbicides, fungicides, insecticides)



Example of median landscape to enhance aesthetics of a corridor from TDOT's Landscape Design Guidelines

Possible plant types could include shrubs like Mountain Laurel and Azaleas and ground cover like daylilies and coneflowers. These plants would provide visual interest in the medians and reduce the amount of mowing area. More plant suggestions are available in the Appendix of the TDOT Landscape Design Guidelines.²²

²¹ TDOT Landscape Design Guidelines: [Chapter 4 – Design Development](#)

²² TDOT Landscape Design Guidelines: [Appendix – Plant List](#)

Figure 30. Segment 1 Shared-Use Path near Pinnacle Parkway

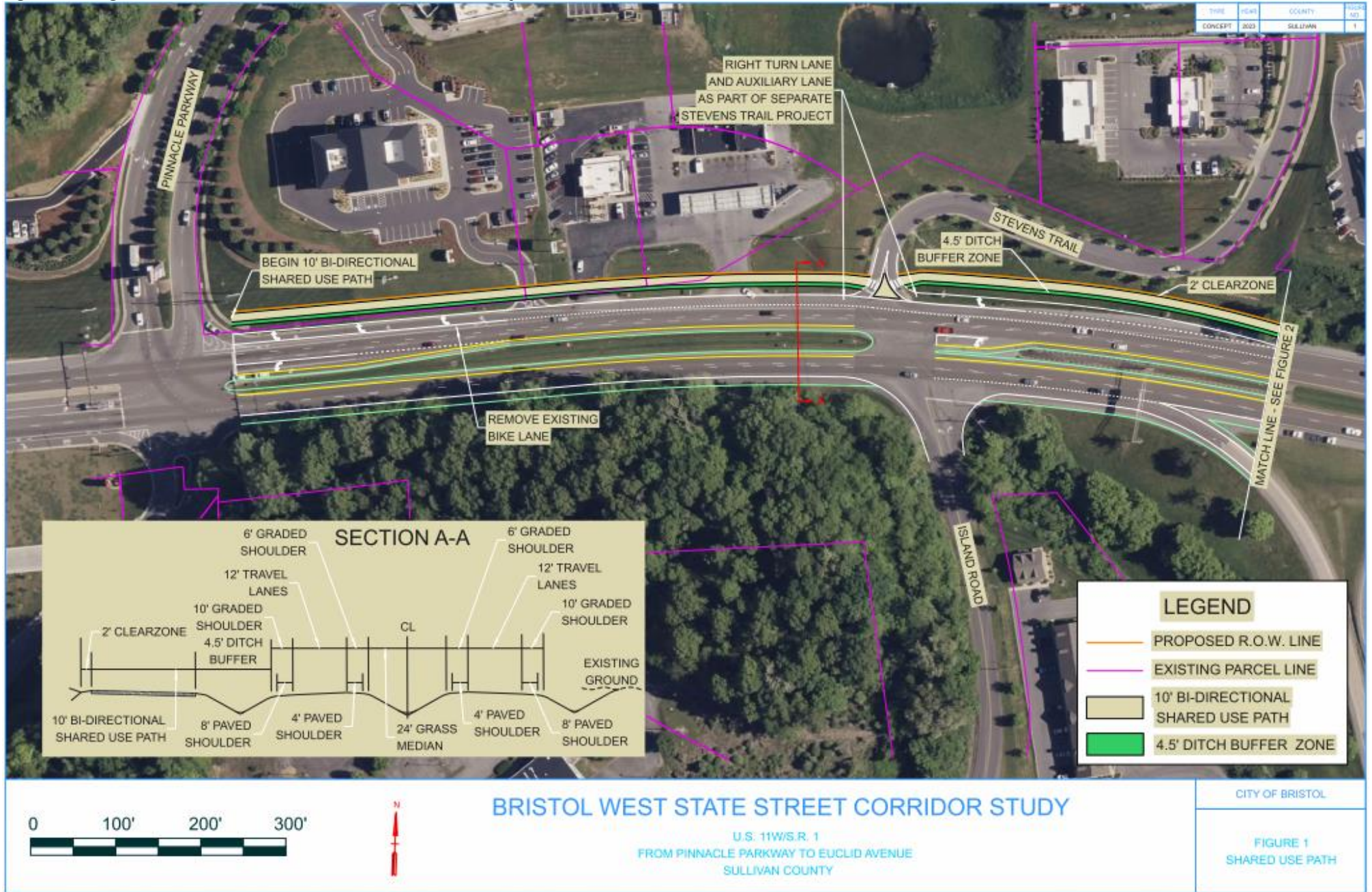


Figure 31. Segment 1 Shared-Use Path near Island Road

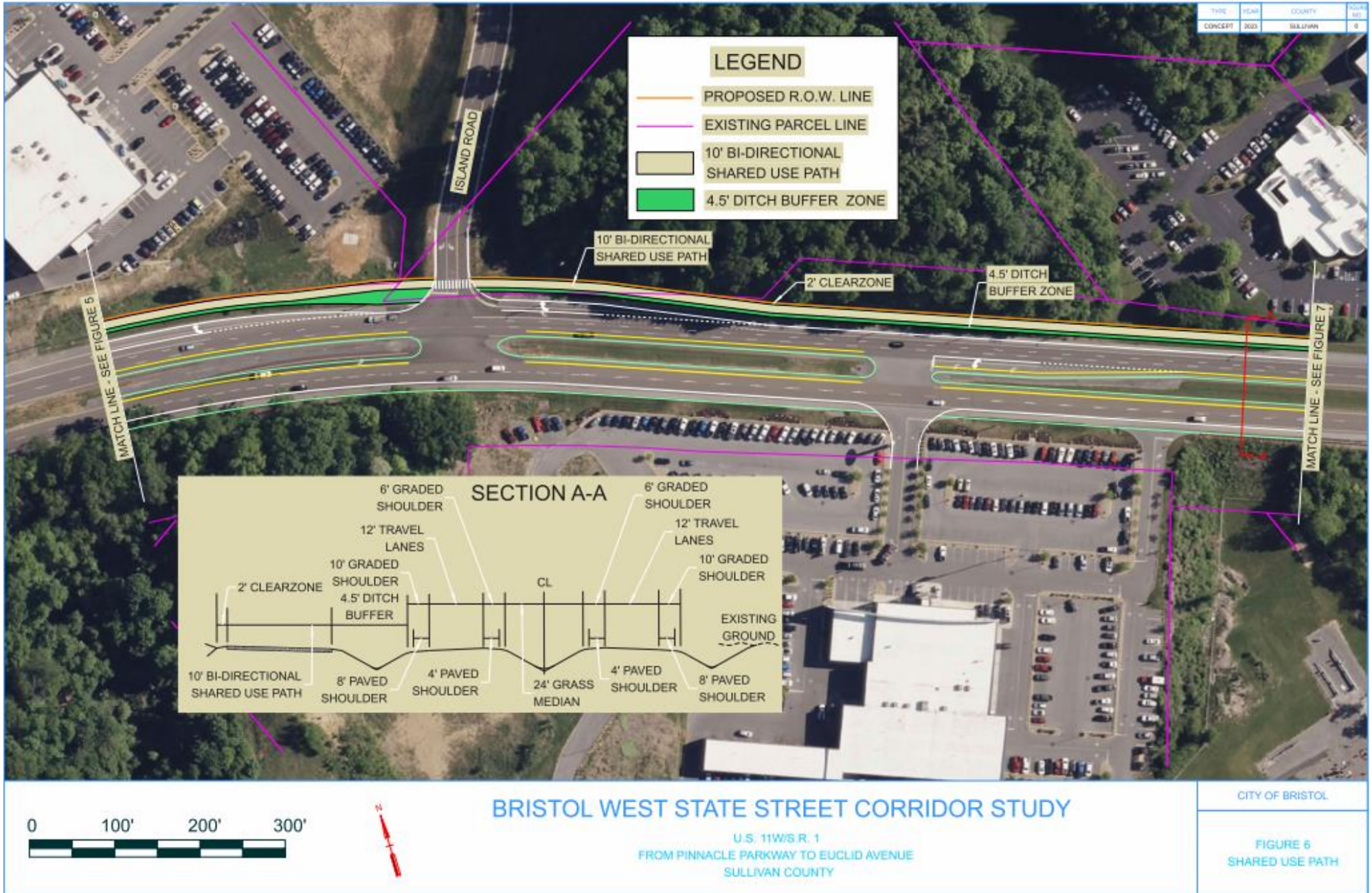
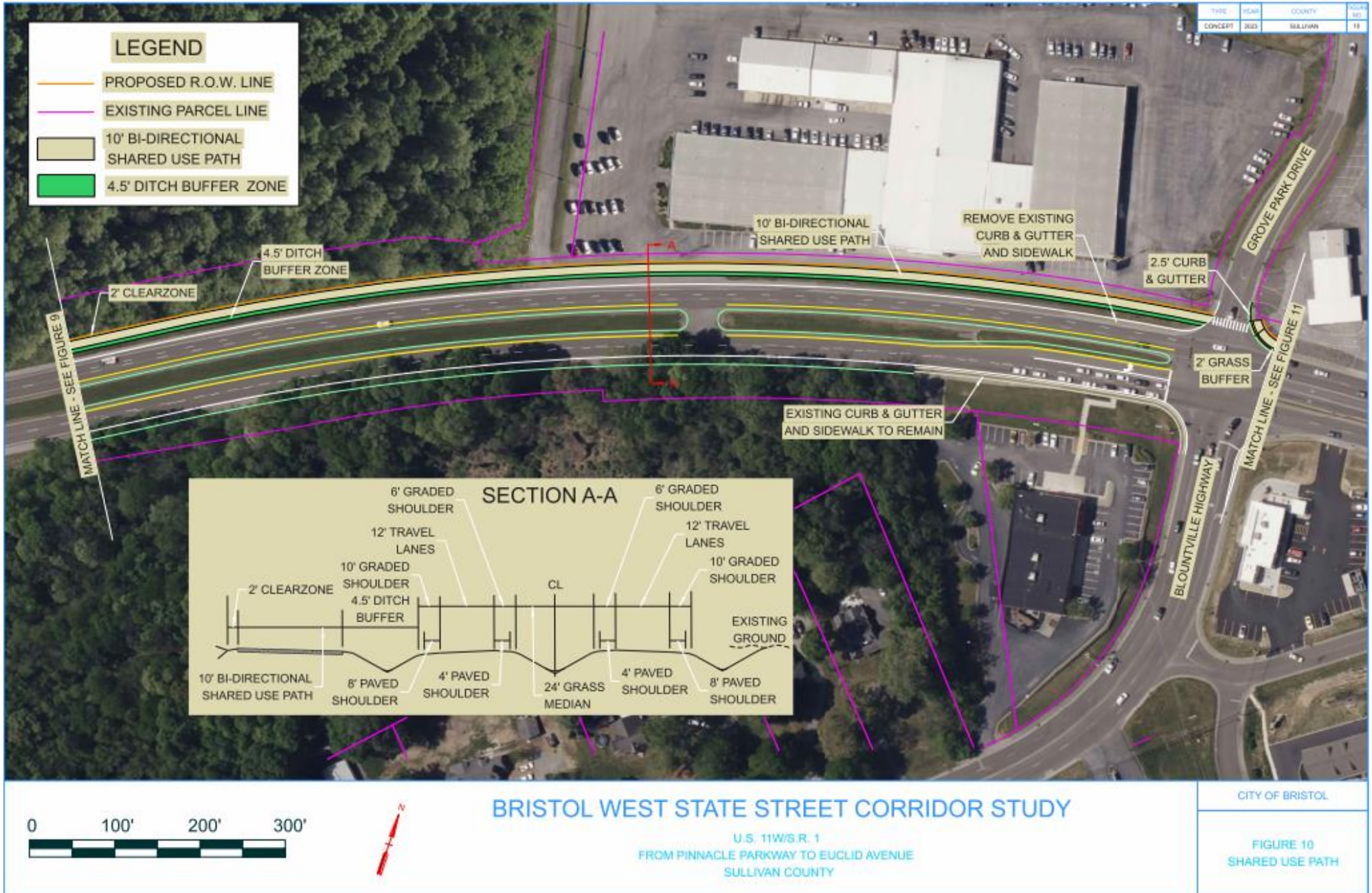


Figure 32. Segment 1 Shared-Use Path near Blountville Hwy (SR 126)



Segment 2

The planning process conducted as part of the West State Street Corridor Study identified a variety of competing goals that require further discussion and consensus building locally. As a result, this study includes two potential recommendations that may be implemented within existing right-of-way (ROW) limits but cater to different goals.

Figure 33 and Figure 34 show illustrative concepts for both Options A and B, with additional plan sheets for the entirety of Segment 2 included in the Appendix. Both options require intersection spot improvements to the intersection with Euclid Avenue/Gate City Highway to tie-in to Segment 1 recommendations.

Option-A

Option A focuses on achieving City goals related to walkability, redevelopment, and improving the aesthetics of the streetscape. Elements of this option including the maintaining five-foot sidewalks on both the north and south side of the roadway, 11-foot travel lanes, and installation of an eight-foot bidirectional cycle track with a two-foot buffer that transitions to the shared-use path recommendation in Segment 1. This option responds specifically to the public input of the online survey that ranked Sidewalk Connections, #5 in the Response Rate, (number of times in the top 5), Land Use & Built Form as #2, Average Rank and Bike Lanes, #4 Average Rank in terms of options and prioritizations.

Option A focuses on achieving City goals related to walkability, redevelopment, and improvement aesthetics, in line with *Bristol Becomes*.

Option B

Option B focuses on optimizing traffic flow and business access. Elements of this option include 11-foot travel lanes and striping of a 12-foot two-way left turn lane with five-foot sidewalks on both the north and south side of the roadway. Anticipated benefits include enhanced traffic flow and convenient access to businesses for vehicles through maintained parking. This option responds to the input from the public survey that ranked Operational Improvements (additional signals, widening or narrowing of lanes, and intersection improvements) as #2 in the Response Rate ranking and #1 in the Average Rank.

Option B focuses on optimizing traffic flow and business access.

Figure 33. Segment 2 Enhanced Multimodal Amenities from 17th St to 13th St (Option A)

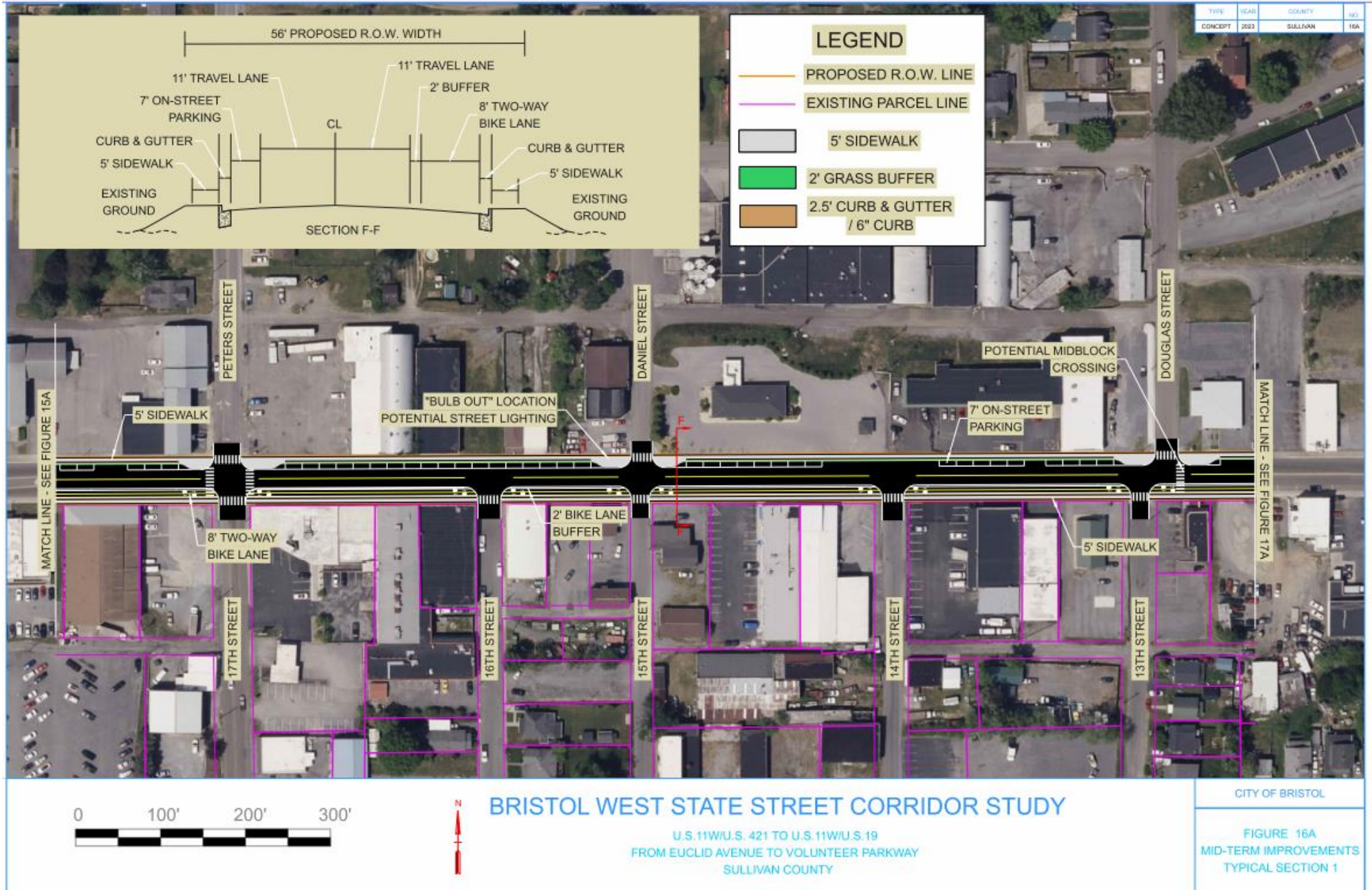
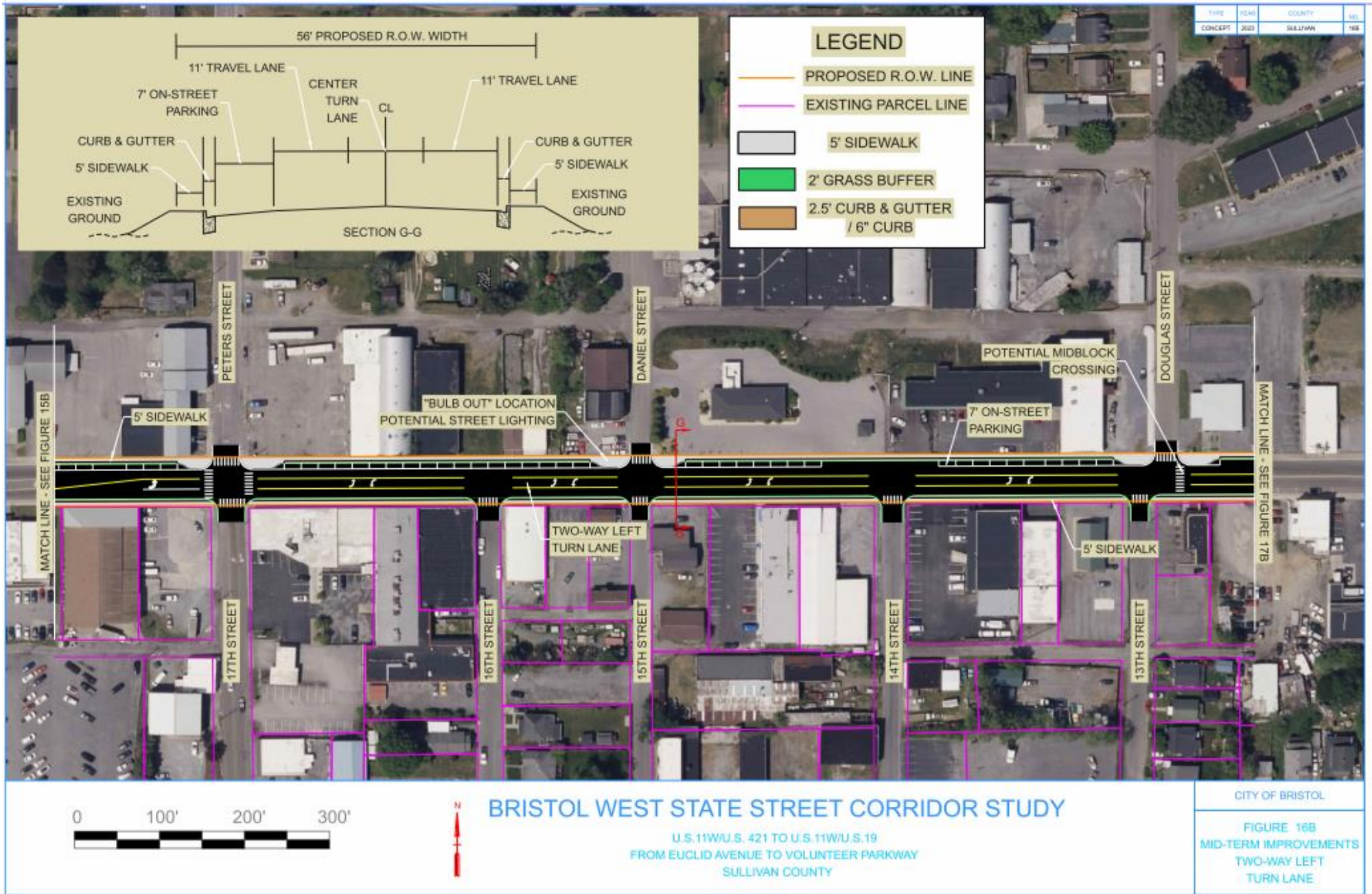


Figure 34. Segment 2 Continuous Two-Way Left Turn Lane from 17th St to 13th St (Option B)



Long-Term Vision (Segment 2 Only)

The goals established as part of the West State Street Corridor Study touch upon a variety of multimodal transportation needs including improving safety, promoting placemaking, encouraging redevelopment, and promoting operational efficiencies and sound access management principles. These goals were also reflected in the public input throughout this process (better lighting, roadway operational improvements, landscaping/aesthetic upgrades, land use and built form changes, sidewalk connections and bike lanes). There were differing priorities of equal importance – safety for cyclists and pedestrians and improved safety for motorists and transit users. While the inclusion of a shared-use path facility along Segment 1 provides the opportunity for pedestrians and cyclists to visit new developments near I-81 for shopping, dining, and recreation while still maintaining reliable traffic, Segment 2 alternatives described in the previous section require tradeoffs between equally important goals of the Corridor Study. Thus, the establishment of a **Long-Term Vision** helps the City and project stakeholders re-imagine the corridor, extending the multimodal and pedestrian friendly characteristics of downtown through Segment 2, without a reduction in vehicular capacity. The long-term vision for Segment 2 is expected to require significant financial cost and significant right-of-way acquisition.

Please note that the renderings presented for the Long-Term Vision for Segment 2 are conceptual in nature and not meant to portray designs for an all-at-once reconstruction. Although the Vision is rooted and developed with sound engineering principles, the implementation of such a vision for Segment 2 would only be carried out in a manner that minimizes impacts on existing buildings and businesses. Figure 35 through Figure 37 serve instead as a framework from which both Cities may methodically pursue small-scale right-of-way acquisitions or enforce setbacks conducive to this vision as new development or redevelopment opportunities arise along Segment 2. As such acquisitions and setbacks become uniform throughout a block of Segment 2, the Cities would then consider widening and reconstruction projects limited to that section of Segment 2. This Long-Term Vision may be subject to changes and refinements should the Cities pursue such opportunities. Additional public feedback and input are highly encouraged if the concept is chosen for further development.

Description

While Intermediate Options A and B represent reasonable solutions that can be done within existing right-of-way, the **Long-Term Vision for Segment 2** provides the City with an opportunity to envision Segment 2 as an extension of Downtown that accommodates a variety of competing transportation needs and community desires.

Transportation elements included in the long-term vision for Segment 2 provide a comprehensive approach to address various transportation needs. These recommendations effectively achieve multiple goals outlined by the City. They provide bi-directional amenities for bicyclists, maintain on-street parking for business access, ensure efficient traffic flow with a continuous two-way left turn lane, and enable street lighting installation within the furnishing area. However, it's essential to acknowledge that right-of-way acquisition may be necessary, potentially impacting parking lots and existing buildings. Nevertheless, the anticipated

benefits of improved safety, traffic management, and enhanced multi-modal transportation infrastructure make these recommendations a valuable investment in the community's future.

Features include:

- ❖ Urban curb & gutter typical section
- ❖ 11-ft travel lanes
- ❖ 11-ft two-way left turn lane
- ❖ 7-ft on-street parking on northside of roadway

- ❖ 5-ft bike lane with 2-ft buffer between vehicular traffic in both the westbound and eastbound directions
- ❖ 5-ft sidewalk on both the southside and northside of roadway with 3-ft furnishing area (grass strip)

Figure 35 and Figure 36 show conceptual renderings of this vision, with the rest of the conceptual plan sheets provided in the appendix to this report.

In the long-term, the City may choose to pursue more ambitious improvements to the intersection of West State Street and Euclid Avenue/Gate City Highway. During discussions with the project team, a roundabout was considered as an opportunity to provide aesthetic and landscaping improvements to the corridor, improve intersection operations, and serve as a gateway to the more urban built form of Segment 2 and subsequently Downtown Bristol. See Figure 37.

Figure 35. Segment 2 Long Term Vision near Bob Morrison Blvd.

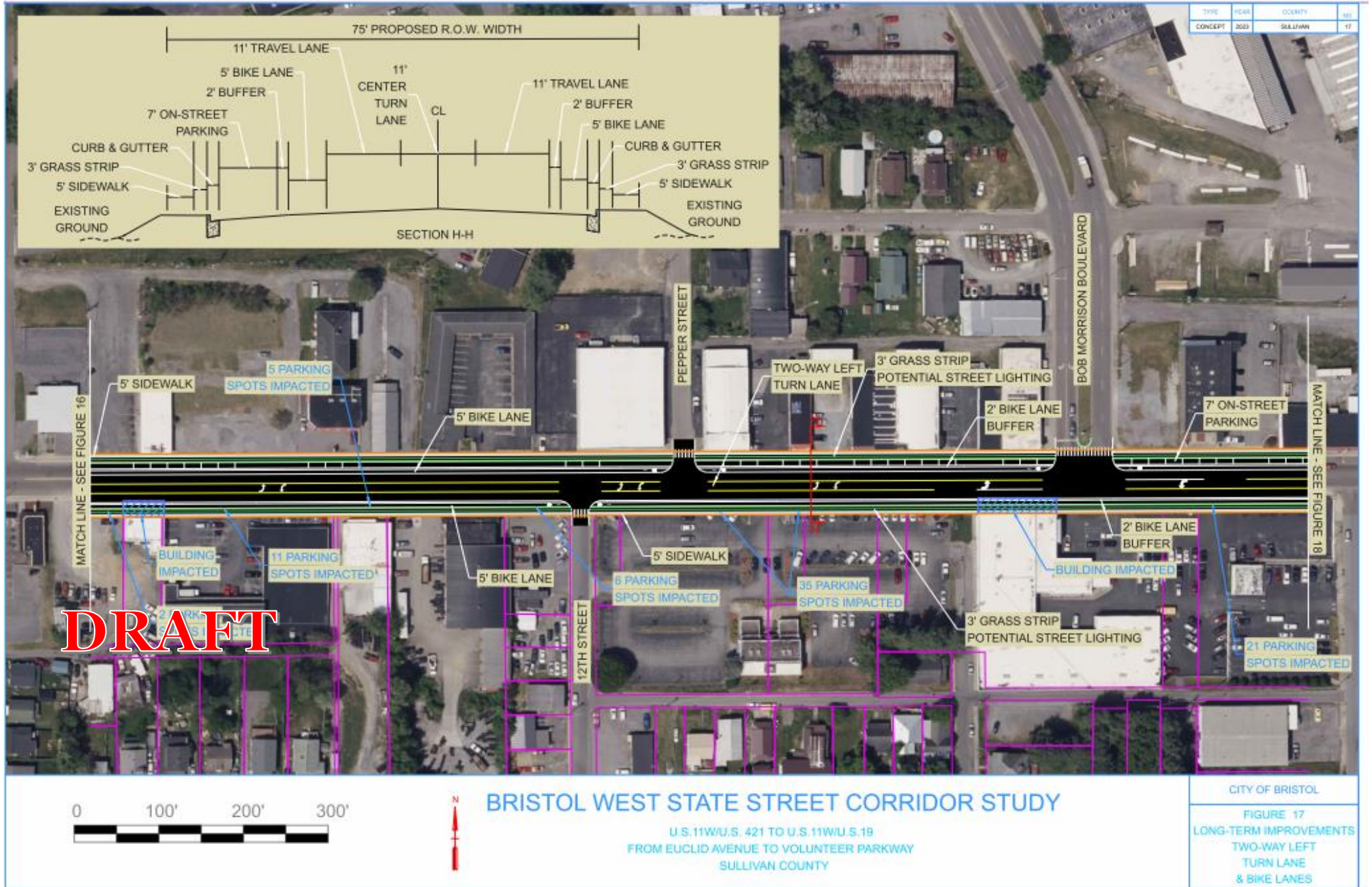


Figure 36. Segment 2 Long Term Vision near Euclid Avenue (US 11W/US 421)/Gate City Highway (US 421)

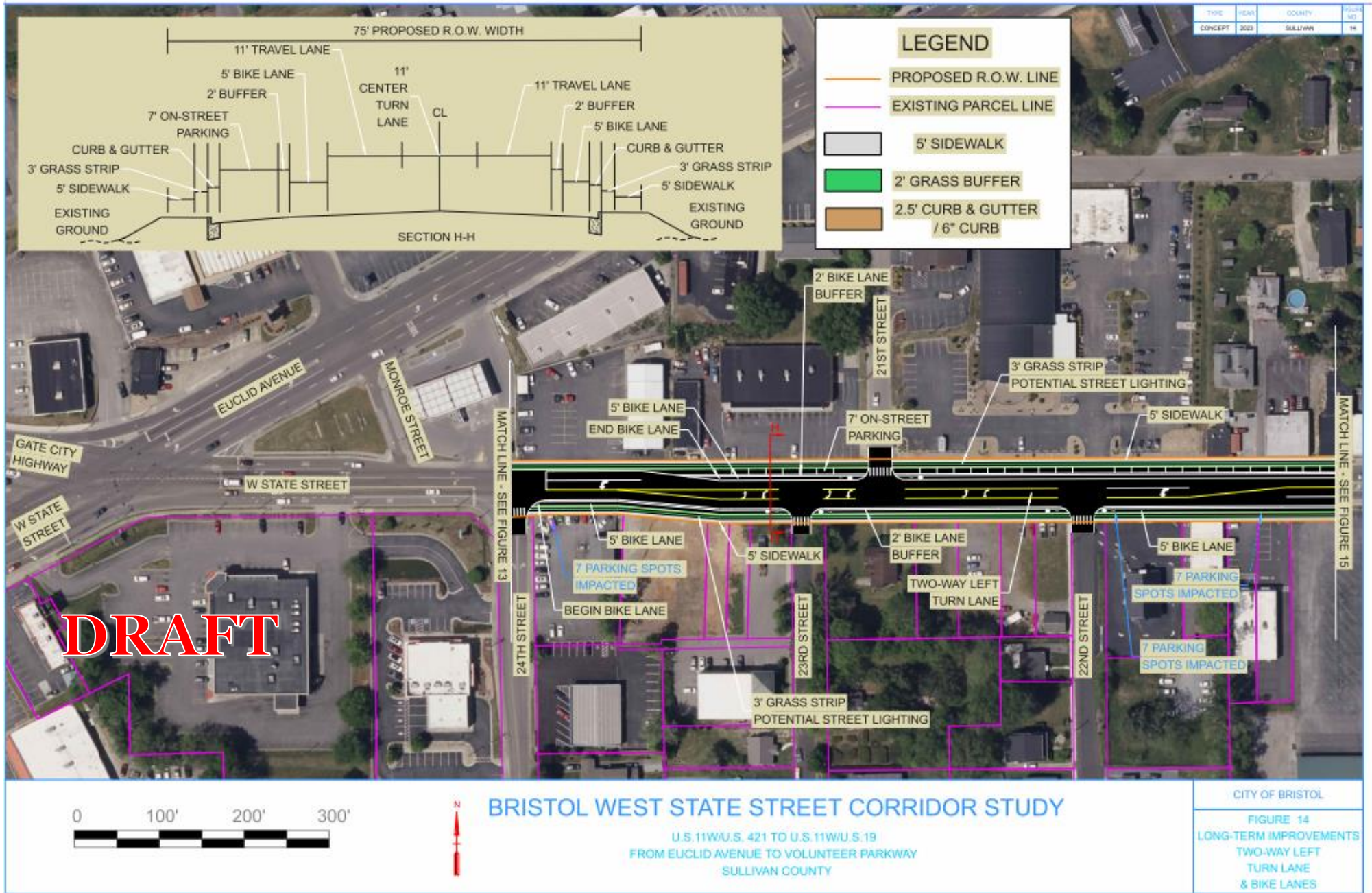
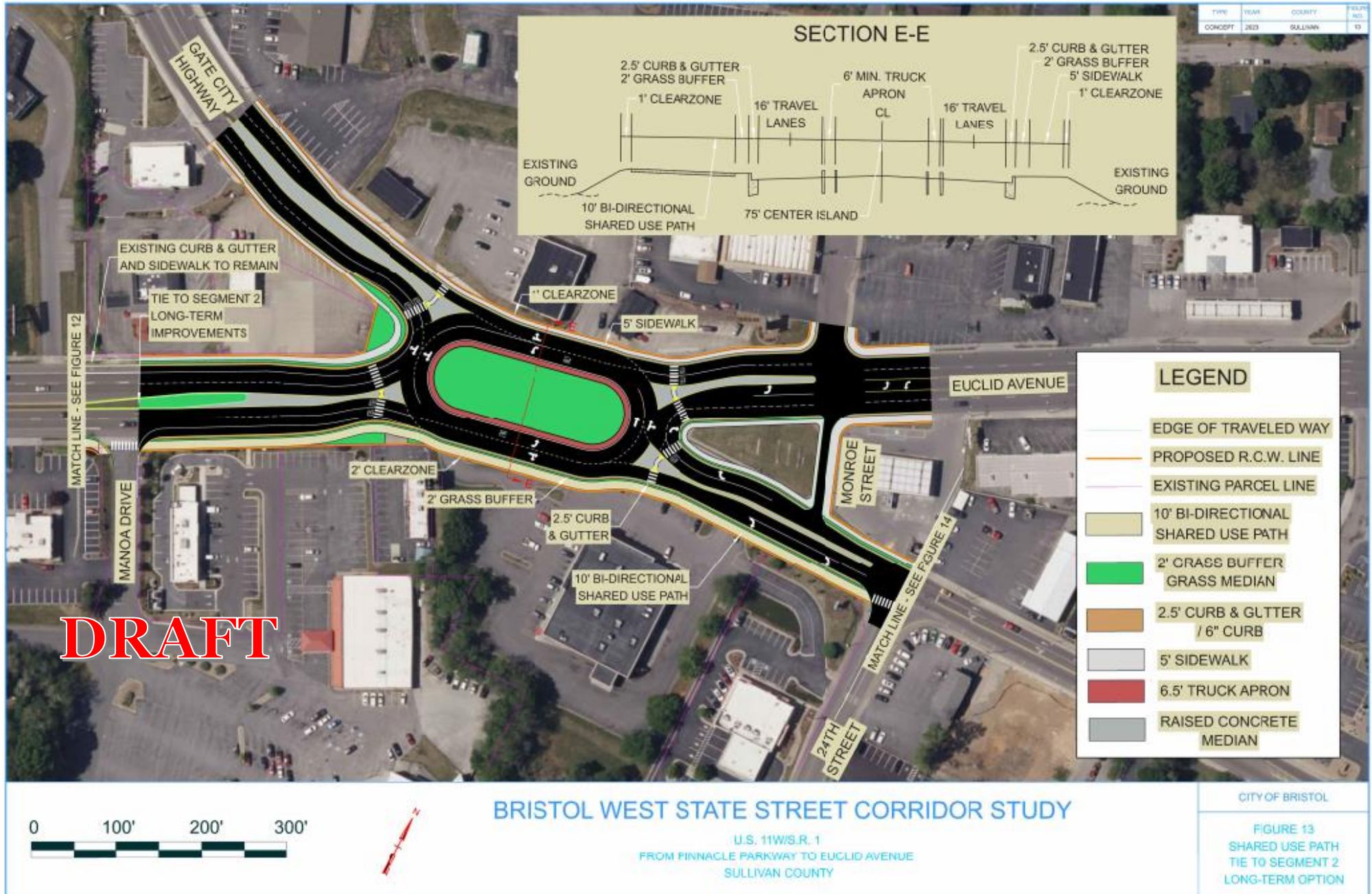


Figure 37. Long Term Vision at Euclid Avenue (US 11W/US 421)/Gate City Highway (US 421) Intersection



List of Recommendations

Near Term:

- ❖ Coordinate with TDOT, Bristol, Virginia and VDOT regarding resurfacing of Segment 2 in 2024

Intermediate:

- ❖ Pursue funding opportunities for the multi-use path in Segment 1
- ❖ Host additional public input sessions regarding Option A and Option B for Segment 2
- ❖ Once an Option is selected coordinate between the Cities and DOT for resurfacing

Long-Term:

- ❖ Establish a stakeholder group to review the viability and level of support for the Long-Term Vision. This could include elected officials of both municipalities, representatives of both cities' staff, TDOT and VDOT, property owners, business owners, Believe in Bristol, Advance Bristol and members of the public
- ❖ Conduct a detailed study of Segment 2 – including traffic counts, turn movements, traffic projections, survey of right-of-way, determination of viability of conceptual plans and plan adoption
- ❖ Upon plan adoption seek appropriate funding sources as outlined in Chapter 8

Cost Estimates

Cost estimates are broken down by corridor segment and include both intermediate and long-term improvements to Euclid Avenue/Gate City Highway. For the purpose of potential project phasing, improvements to Segment 1 are further subdivided by their location east or west of I-81, as well as high-level costs associated with potential bridge improvements at the I-81 interchange near the Pinnacle shopping center. Projects are estimated as if the City were to fund these using the typical Design-Bid-Build process. Other estimates are included in the appendix for Design-Bid and Construction Manager/General Contractor development processes.

Segment 1

Location	Description	Estimate
West of Interchange	Shared-use path from Pinnacle Pkwy. To Stevens Trail/Island Rd.	\$1,360,000
East of Interchange	Shared-use path from Medical Park Blvd. to Manoa Dr.	\$20,800,000
Interchange Area	Shared-Use path from Stevens Trail/Island Rd. to Medical Park Blvd.	\$4,590,000

Segment 2

Segment 2	Description	Estimate
Intermediate Option A	Bike/pedestrian facilities (TS-1) from Euclid Ave. to Volunteer Pkwy.	\$4,260,000
Intermediate Option B	Two-way left turn lane from Euclid Ave. to Volunteer Pkwy.	\$4,220,000
Long-Term Vision	Widening of West State St. from Euclid Ave. to Volunteer Pkwy.	\$27,600,000

Euclid and Gate City Hwy Intersection

Intersection Improvements	Description	Estimate
Intermediate	Intersection improvements at Euclid Ave. to Gate City Hwy.	\$1,290,000
Long-Term Vision	Roundabout at Euclid Ave. and Gate City Hwy.	\$7,270,000

Other Considerations

Parking

Improving parking in Bristol, Tennessee, and Bristol, Virginia, can enhance the overall experience for residents, visitors, and businesses. Below are some recommendations to address parking challenges in both cities:

- ❖ **Parking Inventory and Assessment:** Conduct a comprehensive parking inventory and assessment to understand the current parking supply, demand, and utilization. Identify areas with parking deficits and surpluses.
- ❖ **Smart Parking Solutions:** Implement smart parking solutions, including sensor-based technology, to monitor parking space availability in real-time. This information can be made accessible through mobile apps or digital signage to help drivers find available parking quickly.
- ❖ **Parking Pricing Strategies:** Implement dynamic pricing for on-street parking and parking garages. Adjust pricing based on demand and time of day to encourage turnover in high-demand areas.
- ❖ **Employee Parking Solutions:** Work with local businesses to develop employee parking programs that encourage employees to park in designated areas, leaving prime parking spaces available for customers.
- ❖ **Bicycle and Pedestrian Infrastructure:** Enhance bicycle and pedestrian infrastructure to encourage non-motorized transportation options. Install bike racks and create pedestrian-friendly zones to reduce the need for parking in some areas.
- ❖ **Flexible Zoning and Land Use Policies:** Review zoning and land use policies to allow for flexible parking requirements, particularly in mixed-use developments, where shared parking arrangements can be more efficient.
- ❖ **Long-Term Planning:** Develop a long-term parking management plan that considers future growth, evolving transportation trends, and changing urban development patterns.

- ❖ **Community Engagement:** By implementing a combination of these recommendations, Bristol, Tennessee, and Bristol, Virginia, can work towards improving their parking systems to better meet the needs of their residents and visitors while supporting economic growth and sustainable transportation options.

Transit

Based on the information about the transit services in the Bristol area, particularly the Bristol Tennessee Transit and Bristol Virginia Transit, as well as recent ridership data for the Hospital Route, potential transit improvements to improve the attractiveness of the system include:

- ❖ **Marketing and Promotion:** Given the decline in ridership since 2017, both transit agencies should consider implementing marketing and promotional campaigns to raise awareness about their services. They can use various channels such as social media, local newspapers, and community events to promote the benefits of using public transit.
- ❖ **Extended Operating Hours:** Analyze the feasibility of extending operating hours, at least during peak periods or on certain routes, to accommodate passengers who need transportation outside the current operating hours. This may become especially relevant with the upcoming Hard Rock Hotel & Casino development.
- ❖ **Route Optimization:** Consider conducting route optimization studies to ensure that routes are serving the most populated and in-demand areas. If necessary, adjust routes to better align with the needs of the community.
- ❖ **Real-Time Tracking:** Implement a real-time bus tracking system and a mobile app to allow passengers to track the location of buses in real-time. This can improve the overall user experience and make transit more predictable.
- ❖ **Partnerships:** Explore partnerships with local businesses and educational institutions (e.g., King University) to provide special offers or incentives for students and employees to use public transit.
- ❖ **Long-Term Planning:** Develop a long-term transit plan that considers changing demographics and urban development. This plan should address the future needs of the Bristol area and provide a roadmap for service improvements and expansion.
- ❖ **Data Analysis:** Continue to analyze ridership data regularly to identify trends and adjust strategies accordingly. Keep an eye on external factors that may impact ridership, such as changes in employment patterns or the post-pandemic recovery.

By implementing these recommendations, both Bristol Tennessee Transit and Bristol Virginia Transit can work towards improving their services, attracting more riders, and contributing positively to the transportation needs of the Bristol community.

Other Multimodal Opportunities

Based on the provided information regarding pedestrian facilities, bicycle facilities, and greenways/trails in the Bristol area, high level multimodal strategies and recommendations may include:

- ❖ **Sidewalk Gap Closure:** Prioritize the closure of sidewalk gaps in Segment 1 of West State Street, especially in areas with concentrated pedestrian activity. Focus on providing continuous and safe sidewalks to improve walkability.
- ❖ **Enhanced Crosswalks:** To enhance pedestrian safety and connectivity at the intersection of West State Street and Euclid Avenue/Gate City Highway, consider implementing the following measures:
 - High-Visibility Crosswalks: Use bold, contrasting pavement markings for crosswalks to make them highly visible to drivers.

- Raised Crosswalks: Install raised crosswalks to slow down vehicle speeds and improve pedestrian safety.
 - Pedestrian Refuge Islands: Include pedestrian refuge islands in the middle of the crosswalk to provide a safe space for pedestrians and improve visibility.
 - ADA-Compliant Ramps: Ensure that curb ramps at the crosswalk meet ADA standards for accessibility.
 - Pedestrian Signage: Place pedestrian-friendly signs at both ends of the crosswalk to indicate its presence.
 - Flashing Beacons: Consider pedestrian-activated flashing beacons for added safety.
 - Crosswalk Lighting: Improve Street lighting near the crosswalk for nighttime visibility.
- ❖ **Pedestrian Connections to The Pinnacle:** Work on establishing pedestrian connections from the sidewalks near Segment 1 to the Pinnacle development to promote walkability and access to nearby amenities.
 - ❖ **Promote the Mark Vance Memorial Greenway:** Increase public awareness of the Mark Vance Memorial Greenway, highlighting its scenic route and connectivity between Steele Creek Park and Downtown Bristol. Develop signage and promotional materials to encourage its use.
 - ❖ **Greenway Expansion:** Act on the recommendations from the Bristol Greenways and Trails Plan to expand the network of trails and greenways that connect with West State Street (US 11W/ SR 1). These expansions can provide additional recreational opportunities and alternative transportation routes.

Access Management Considerations

Driveway spacing, corridor access, and street connectivity are prominent considerations in development and redevelopment opportunities along the corridor, with poor access management often leading to safety concerns for drivers, pedestrians, and bicyclists.

In January of 2021, TDOT released a Highway System Access Manual which contains 3 volumes:

- ❖ **Volume 1 Planning** – Corridor Management Agreement Guidance and Model Land Development Regulations
- ❖ **Volume 2 Intersection and Interchange Evaluation** – Introduction, IIE Form Guidance, and Methodology
- ❖ **Volume 3 Geometric Design Criteria**

As noted in Volume 1, there are numerous strategies and policies that can be deployed by local entities, in collaboration and alignment with state policies and initiatives, to better promote access management at the local level. Local jurisdictions can promote a range of access management policies and strategies through their land development regulations (LDRs). Strategic land use controls, in congress with state access management efforts, can help improve the transportation system for users of all ages and abilities. Access management standards can be advanced through comprehensive plans, zoning ordinances, and land development and subdivision regulations. Jurisdictions may also amend current overlays to include access management guidance. All LDRs should follow statewide guidance as described in HSAM Volume 1.

Strategies for consideration may include:

- ❖ Reduce density through driveway closure, consolidation, or relocation.
- ❖ Manage spacing of intersection and access points.
- ❖ Limit allowable movements at driveways (such as right-in/right-out only).
- ❖ Place entry/exit points on side roads instead of on West State Street.
- ❖ Use lower speed one-way or two-way off-arterial circulation roads.

- ❖ Place driveways on an intersection approach corner rather than a receiving corner, which is expected to have fewer total crashes.

8. Implementation and Next Steps

Next Steps

The City of Bristol and its residents have made it clear that the preferred alternative for Segment 1 is the implementation of a shared-use path connecting to Pinnacle Parkway. The City should work towards **funding options to achieve this near-term vision** while continuing to **build consensus on Segment 2** options. Segment 2 provides for alternatives that can be instituted incrementally; however, it is essential that a **unified** agreement is made, and **strong coordination** exists between both Bristol, Virginia and Bristol, Tennessee to ensure the vision of this Corridor Study achieves the goals set forth. Implementing enhancements to Segment 2 that foster a walkable and mixed-use environment can help spur revitalization in the near downtown area as a true destination for residents and visitors. Prioritizing vehicular reliability and operations may typically be associated with more highway-oriented development, while prioritizing a walkable corridor encourages more mixed-use urban type development. As with the goals of this plan and the recent Comprehensive Plan update, these documents have strongly envisioned a downtown and surrounding areas with enhanced multimodal options that prioritizes pedestrian movements and in a more walkable urban area.

It is essential to ensure the City Council and the Planning Commission have shared goals and a **unified vision for future road investments**. It is recommended that the Planning Commission create a ranking **list of priorities** that are outlined in this plan that include feasible time-horizons to seek funding for each noted investment. By outlining investment alternatives, the outcomes of this Corridor Study become more attainable and signify to potential funding sources that the City of Bristol is serious about planning efforts and the outcomes they can generate for their community. If the Planning Commission so desires, presenting these efforts to the City Council for their comments, support, and approval will continue to strengthen any application for funding to state and federal partners for financial assistance.

Community knowledge and endorsement of any project is a key component to successful applications for funding. While this Study had excellent involvement from citizens of Bristol, these touchpoints with the public were only to explore ideas. Once the City identifies preferred alternatives for each segment, it is recommended to hold an **open-house** type event to clarify the vision the residents have helped to create throughout the planning process. It is critical to educate citizens on how local, state, and federal funds work with transportation and the time constraints associated with the funds.

It is also recommended that the City continue to **work closely with their own MPO** to ensure goals and priorities are not blurred and all departments across both Tennessee and Virginia understand the shared vision that is established. While the Bristol MPO interacts consistently with the Long Range Planning Division within TDOT and the Transportation and Mobility Planning Division within VDOT, this working relationship is paramount to ensure proper coordination and support for all transportation and infrastructure projects moving forward.

Funding Opportunities

The materials developed through the West State Street Corridor Study planning process provide the basis for the City to pursue funding for improvements, including funds available through the U.S. Department of Transportation and TDOT. To encourage implementation, Bristol should look to seek funding opportunities through any available local, state, and federal sources.

State Funding Opportunities

TDOT's Transportation Alternatives Program (TAP) is a state program that provides funds for multimodal and related activities through a Transportation Alternatives (TA) set-aside of the Surface Transportation Block Grant program. This grant requires a 20% local match and can be used for construction activities. Many recommendations in this Corridor Study can help provide Bristol with a foundation for pursuing future funding from TAP, which can be applied for in various phases, over subsequent years. Many communities across Tennessee, including the City of Bristol, have shown TDOT a unified vision for implementation over a three-five phase process and received multi-million-dollar investments. It should be noted that Bristol has been a recipient of the TAP grant on seven different occasions since 1996:

- ❖ 1996: Bristol Gateways/Wes David Memorial Greenway and Historic Castle Restoration
- ❖ 2001: Bristol Pedestrian/Bicycle Route
- ❖ 2004: Volunteer Parkway and Highway 11E Pedestrian Enhancements
- ❖ 2005: Volunteer Parkway and Highway 11E Pedestrian Enhancements – Phase 2
- ❖ 2007: Volunteer Parkway and Highway 11E Pedestrian Enhancements – Phase 3
- ❖ 2017: Virginia Avenue Pedestrian Improvements
- ❖ 2018: Bluff City Highway/Edgemont Avenue Park Connection

TDOT's Multimodal Access Grant (MMAG) is another state program that provides funds for the transpiration needs of pedestrians, bicyclists, and transit users. Sidewalks, multi-use paths, and pedestrian lighting elements are a few of the eligible investments under this program. This grant requires a 10% local match, and unlike TAP which funds construction only, the MMAG can also assist with planning, design, and right of way costs. The City of Bristol has never been awarded this grant since its establishment in 2014, which signifies the strong potential and need to utilize these funds.

TN ECD's Downtown Improvement Grant Program is open to Tennessee Main Street communities and communities that have participated in the Tennessee Downtowns program in Rounds 1-7 and have an active Design Committee. Grants of up to \$300,000 are awarded to communities for enhancements to building facades, wayfinding signage, courtyard improvements, gateways, streetscapes, lighting and sound, and electric vehicle charging. Eligible projects include:

- ❖ **Façade improvements** - exterior improvements to for-profit or nonprofit commercial businesses including signage, painting, awnings, lighting, windows, doors, entryways and other approved activities. At least 50% of the proposed project must be façade improvements.
- ❖ **Gateway improvements** – Physical improvements including landscaping and signage at the gateway(s) to your downtown.
- ❖ **Streetscape improvements** – Physical improvements such as planters, benches, lighting, sound system, landscaping that improve your streetscape and unify the district.
- ❖ **Wayfinding signage** – Signage that is consistent with your community's brand that directs tourists to places of interest in your town.

The Tennessee Department of Health (TDH) Healthy Built Environments (HBE) Grant Program provides competitive grants to enhance the built environment. In 2018, TDH launched the program which provides funds for projects including playgrounds, walking trails, outdoor fitness stations, greenways, trails, and other publicly accessible spaces that promote physical activity. Through this program, Carter County was awarded \$20,000 to support the construction of Gap Creek Park Pedestrian Bridge.

Federal Funding Opportunities

Safe Streets and Roads for All (SS4A). The SS4A program is a federal program that supports both planning and implementation grants. Implementation grants, which would benefit the City of Bristol, can be infrastructure or operational improvements for the roadway network and include transformation of roadway corridors, installing pedestrian safety enhancements and closing network gaps, supporting the development of bikeway networks, and carrying out speed management strategies. This grant requires an Action Plan to be in place in order to qualify for funding of this grant, which Bristol received funding for in early 2023. Once this Action Plan is fully developed, Bristol will be able to apply for additional implementation funds.

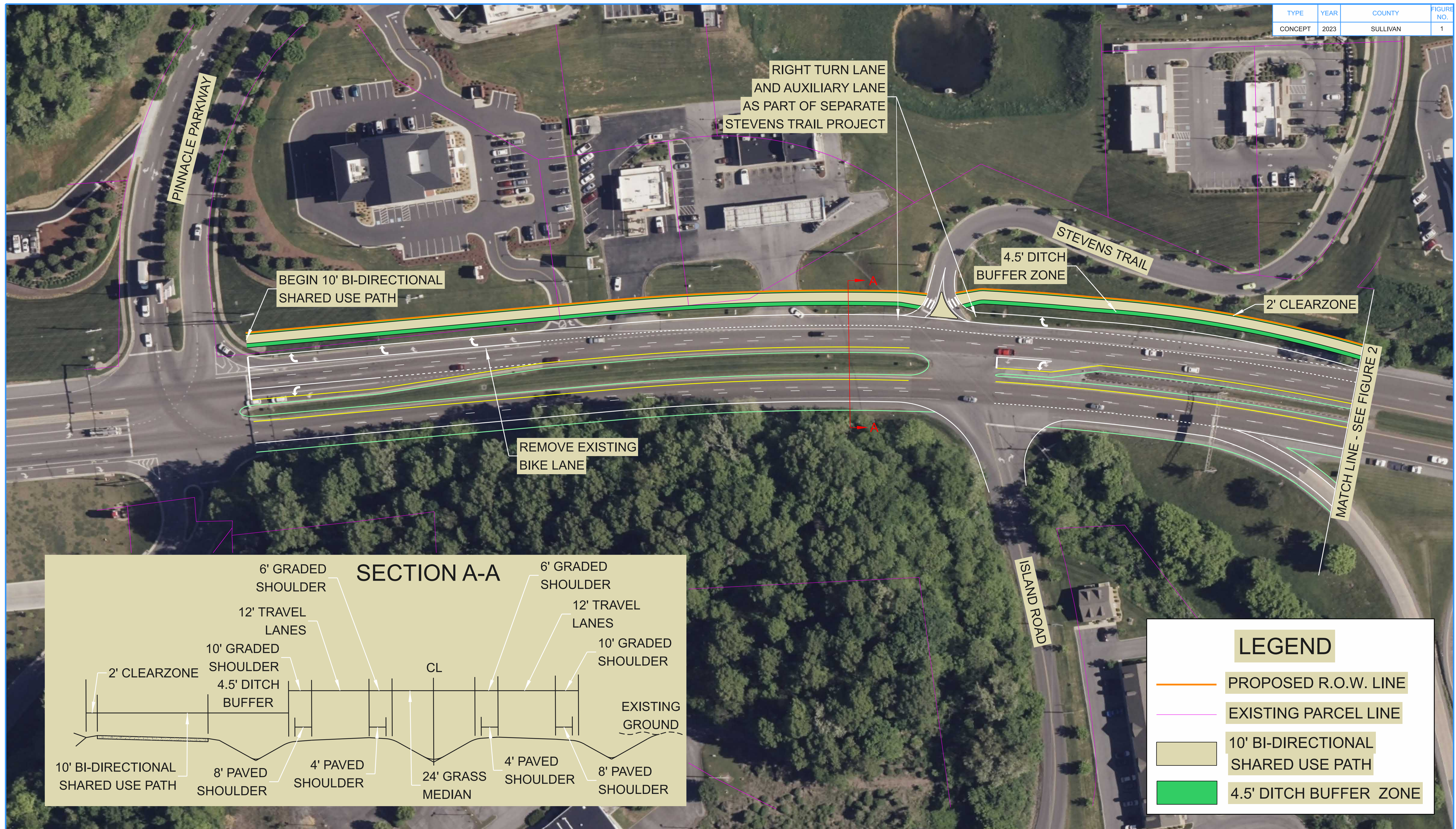
Rebuilding American Infrastructure with Sustainability and Equity (RAISE). RAISE provides grants for surface transportation infrastructure projects that will have a significant or regional impact. Merit and selection criteria include the ability of submitted projects to address safety, environmental sustainability, quality of life, mobility and community connectivity, economic competitiveness, state of good repair, collaboration, and innovation. Grant applicants are required to conduct a benefit-cost analysis demonstrating the effectiveness of a project to achieve anticipated benefits, relative to costs.

Healthy Streets Program. The Healthy Streets Program establishes a new discretionary grant program to expand the use of cool pavement and porous pavement and expand tree cover. Goals of the program are to mitigate urban heat islands, improve air quality, reduce the extent of impervious surfaces, reduce stormwater run-off and flood risks, and reduce heat impacts to infrastructure and road users.

Appendix

Segment 1 Plan Sheets

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	1



RIGHT TURN LANE
AND AUXILIARY LANE
AS PART OF SEPARATE
STEVENS TRAIL PROJECT

PINNACLE PARKWAY

BEGIN 10' BI-DIRECTIONAL
SHARED USE PATH

4.5' DITCH
BUFFER ZONE

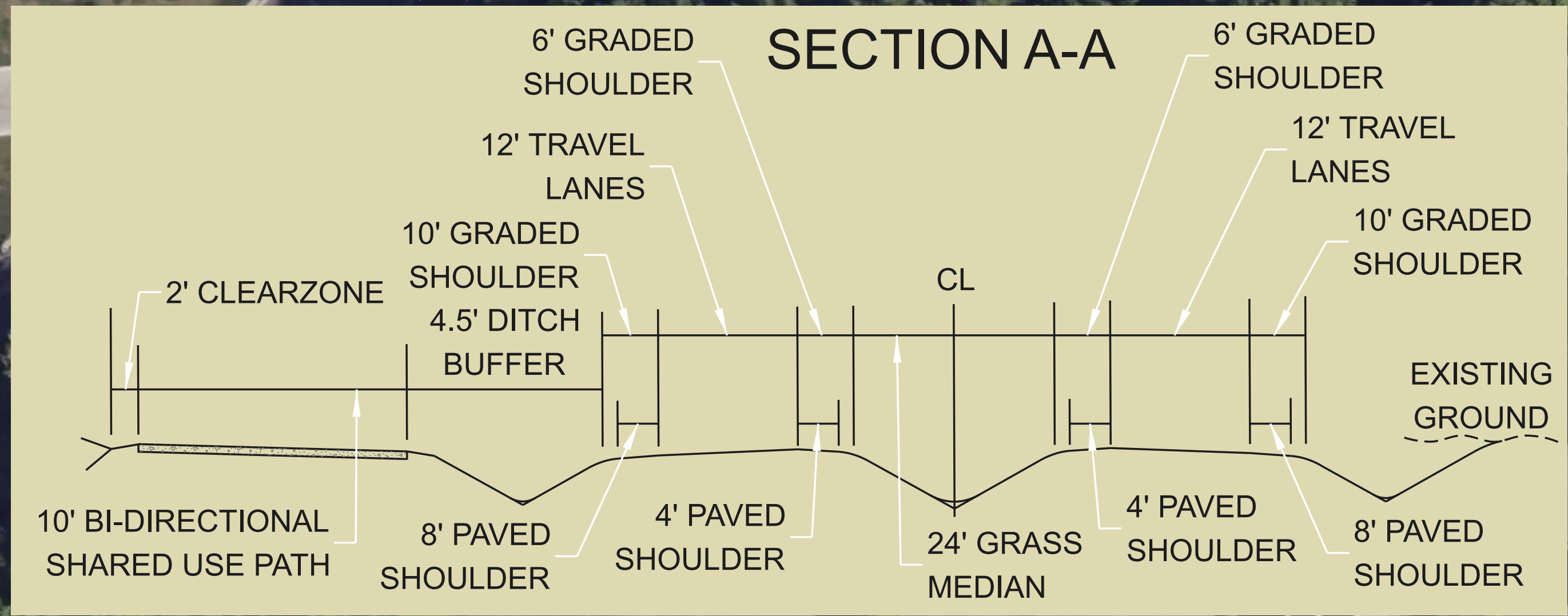
STEVENS TRAIL

2' CLEARZONE

REMOVE EXISTING
BIKE LANE

MATCH LINE - SEE FIGURE 2

ISLAND ROAD



LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 4.5' DITCH BUFFER ZONE



BRISTOL WEST STATE STREET CORRIDOR STUDY

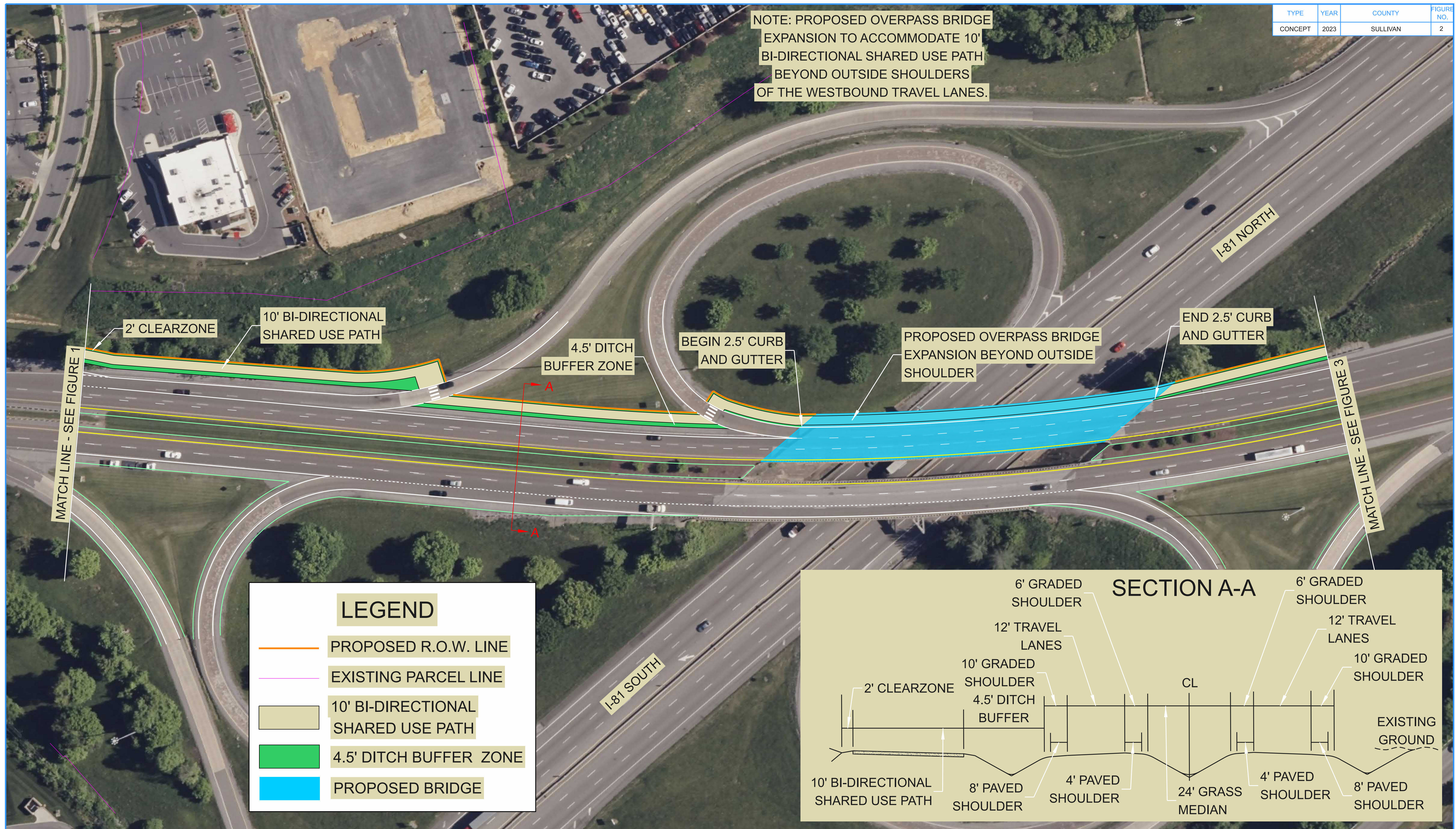
U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 1
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	2

NOTE: PROPOSED OVERPASS BRIDGE EXPANSION TO ACCOMMODATE 10' BI-DIRECTIONAL SHARED USE PATH BEYOND OUTSIDE SHOULDERS OF THE WESTBOUND TRAVEL LANES.

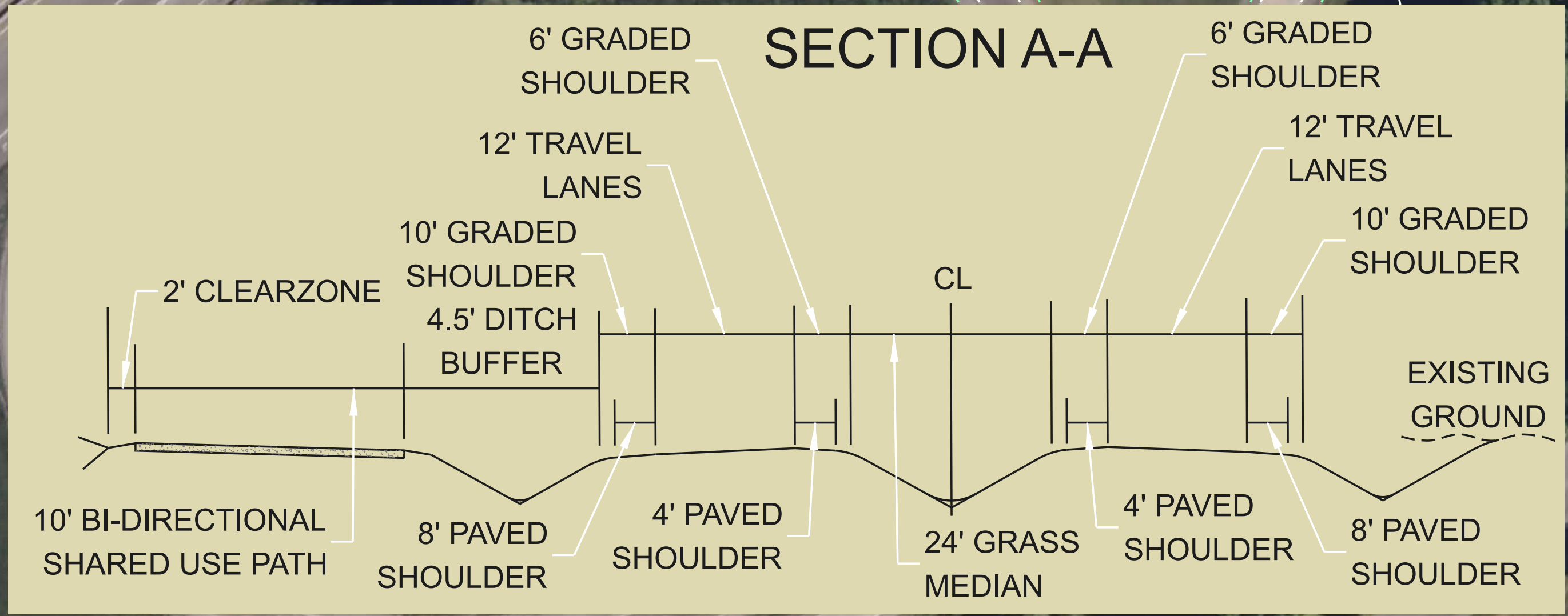


MATCH LINE - SEE FIGURE 1

MATCH LINE - SEE FIGURE 3

LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 4.5' DITCH BUFFER ZONE
- PROPOSED BRIDGE



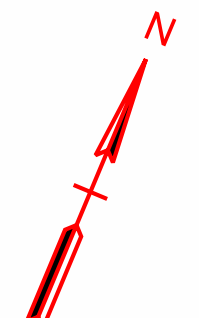
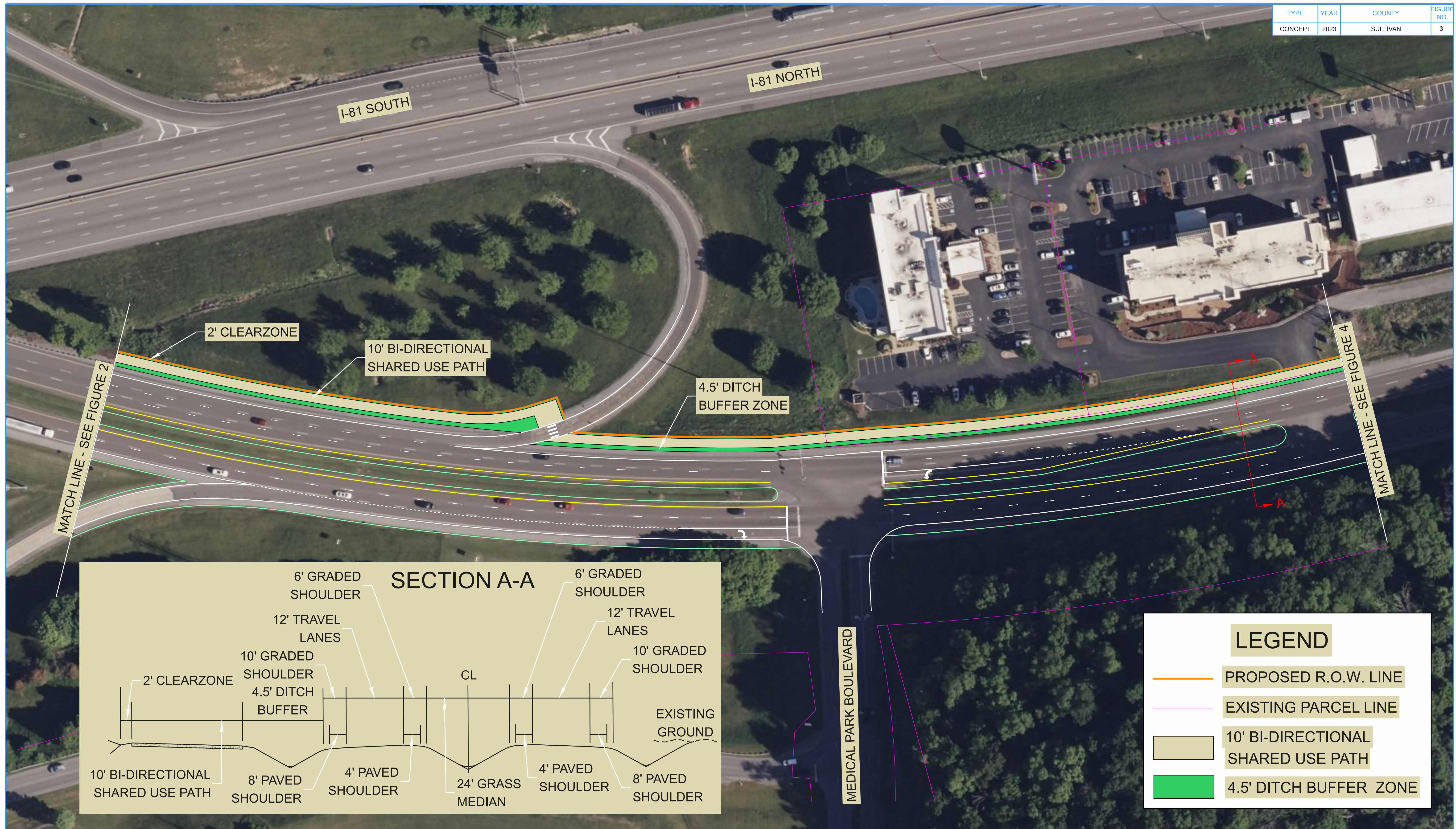
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 2
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	3



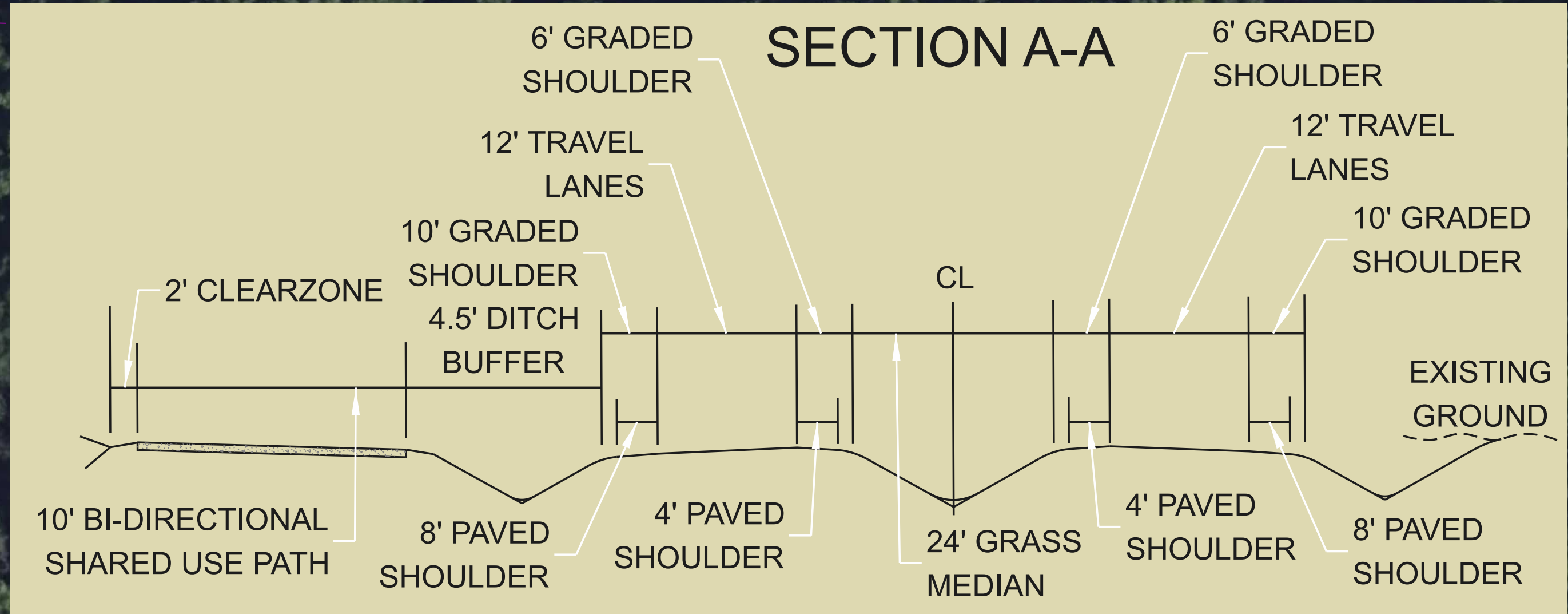
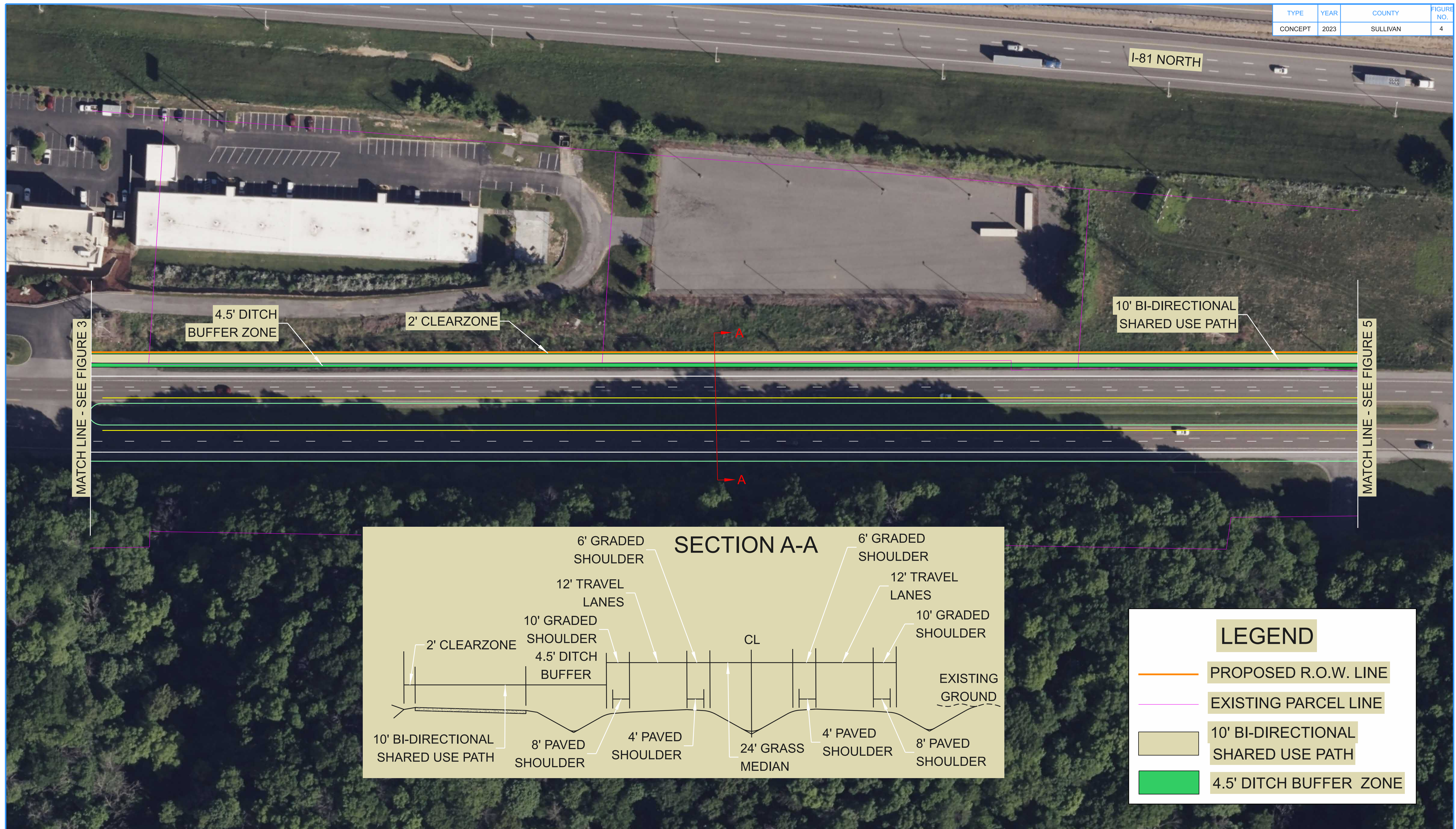
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

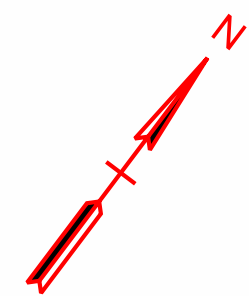
FIGURE 3
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	4



LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 4.5' DITCH BUFFER ZONE



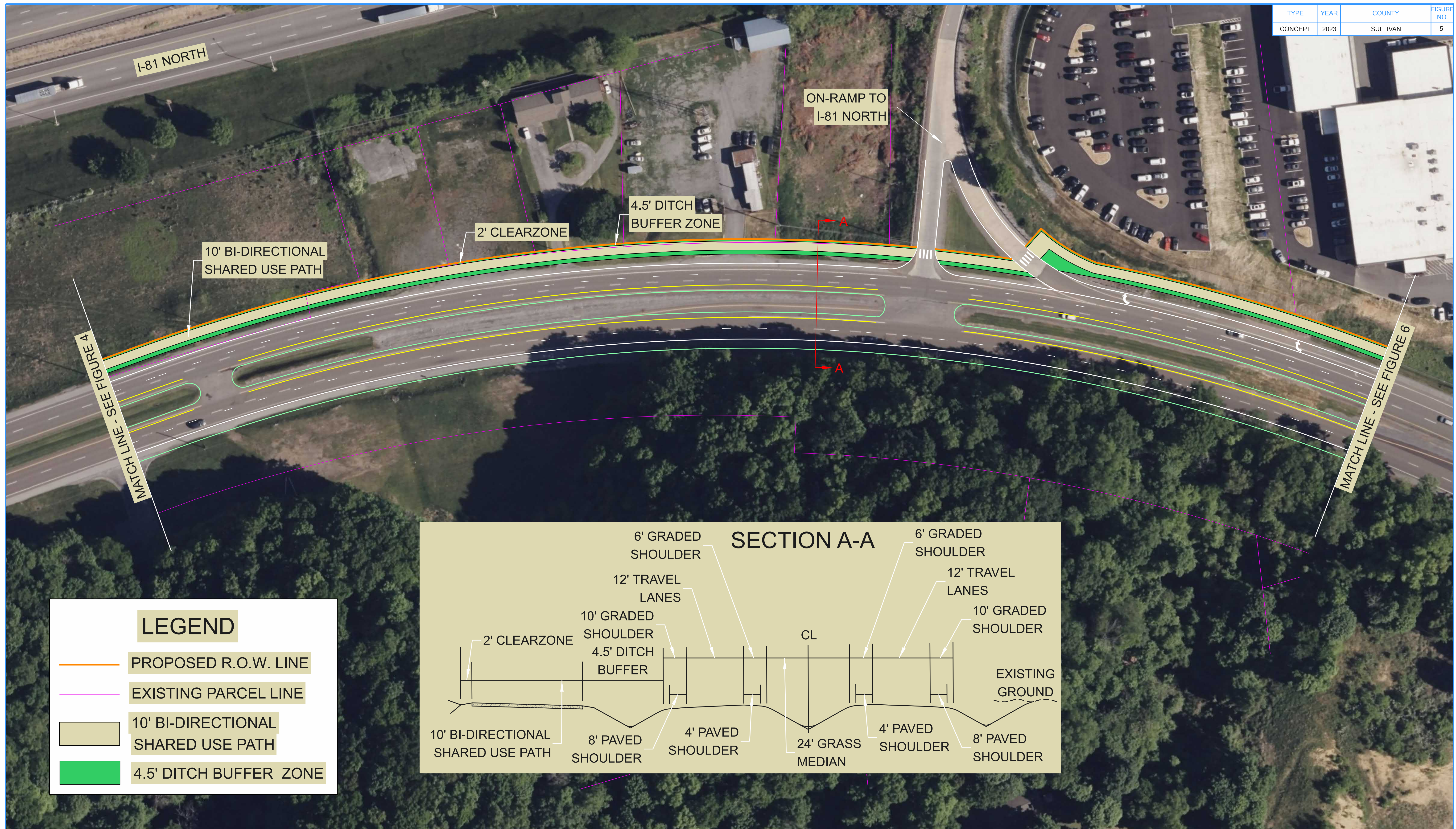
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

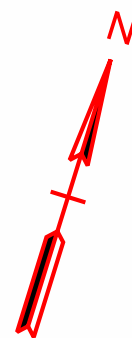
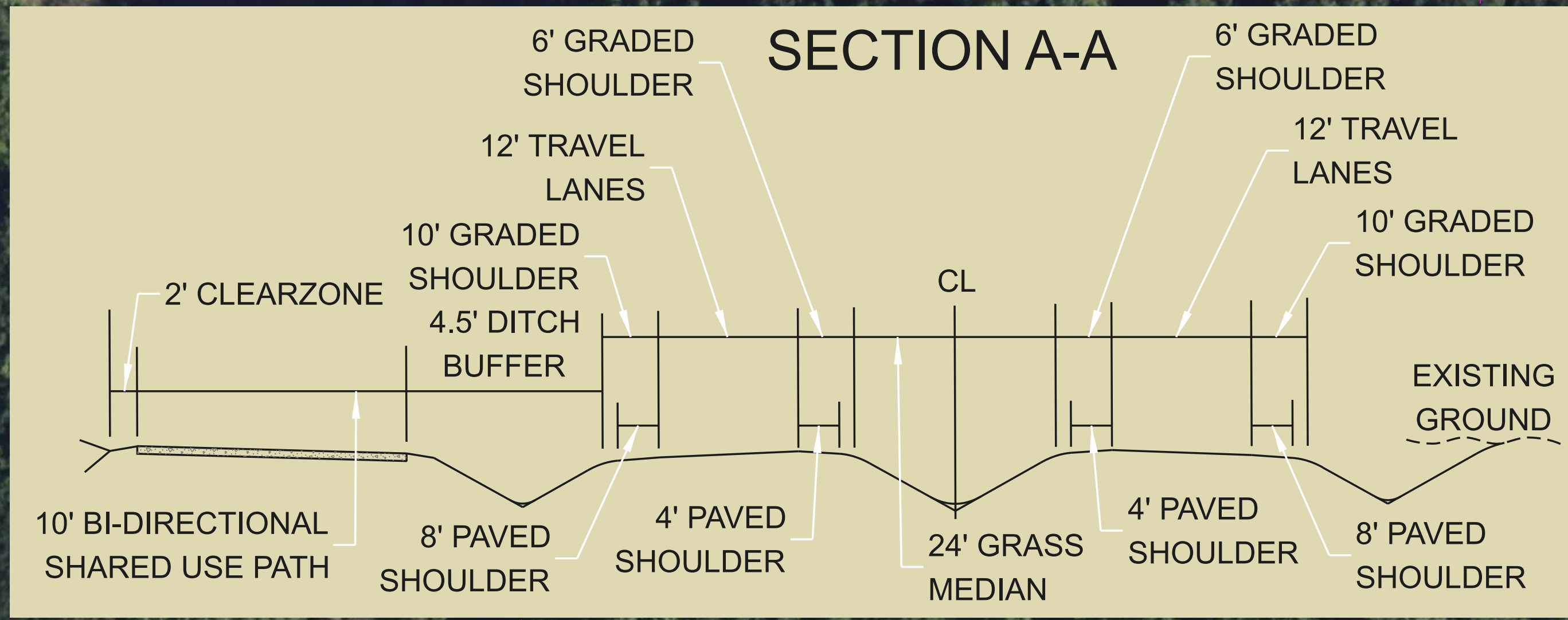
FIGURE 4
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	5



LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 4.5' DITCH BUFFER ZONE

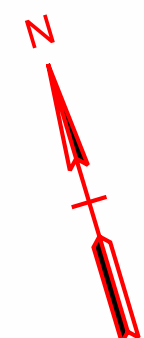


BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 5
SHARED USE PATH



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

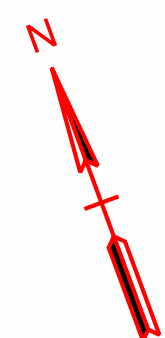
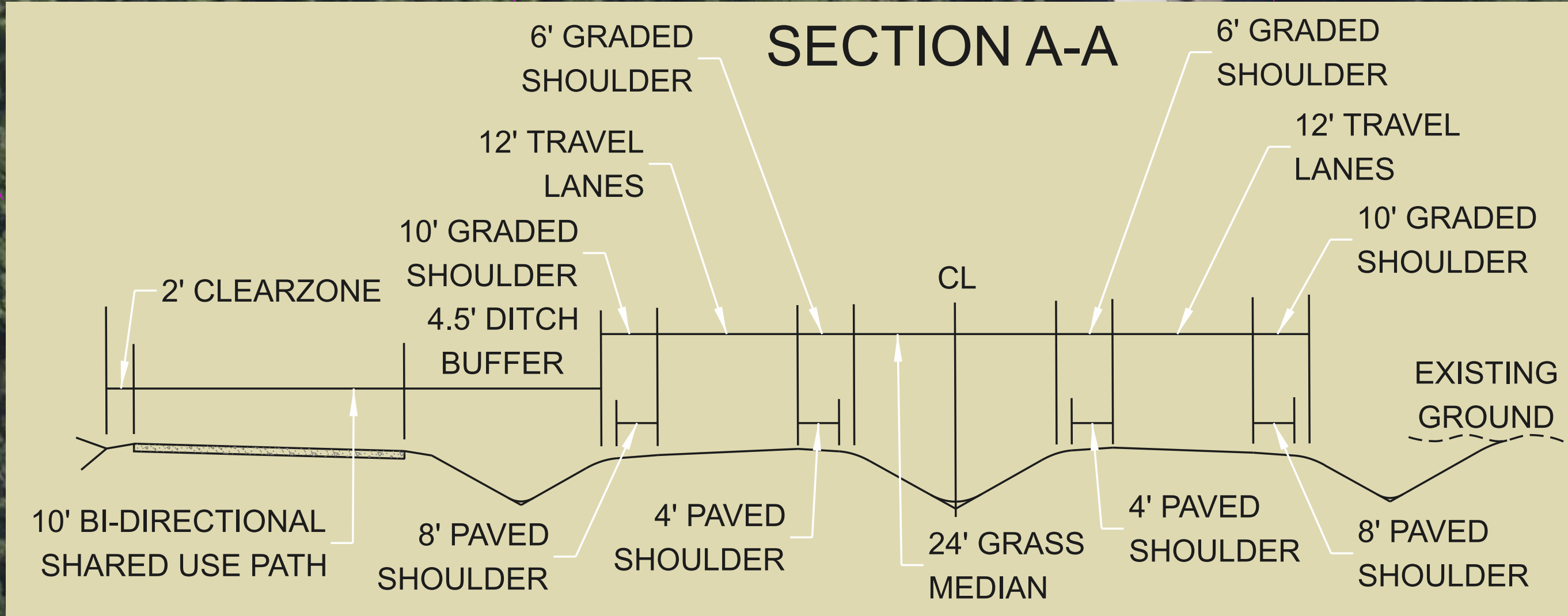
CITY OF BRISTOL

FIGURE 6
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	8

LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 4.5' DITCH BUFFER ZONE

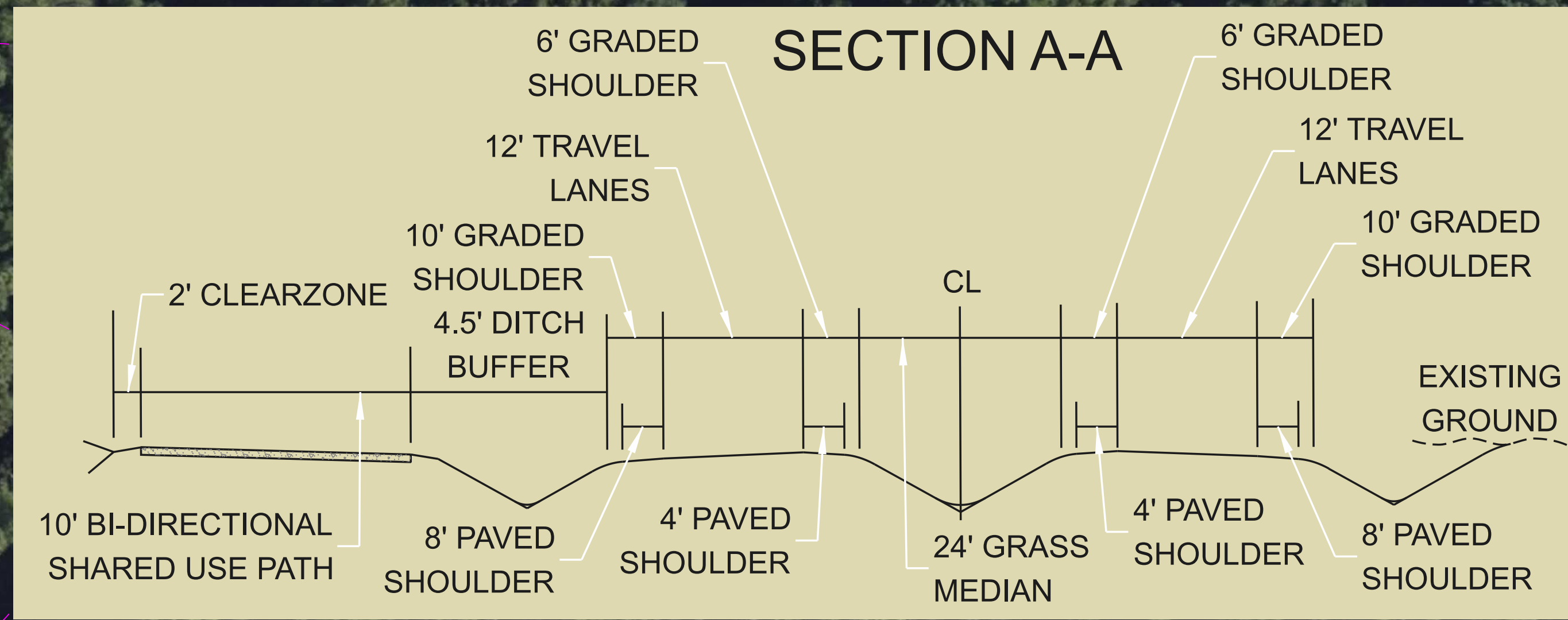


BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

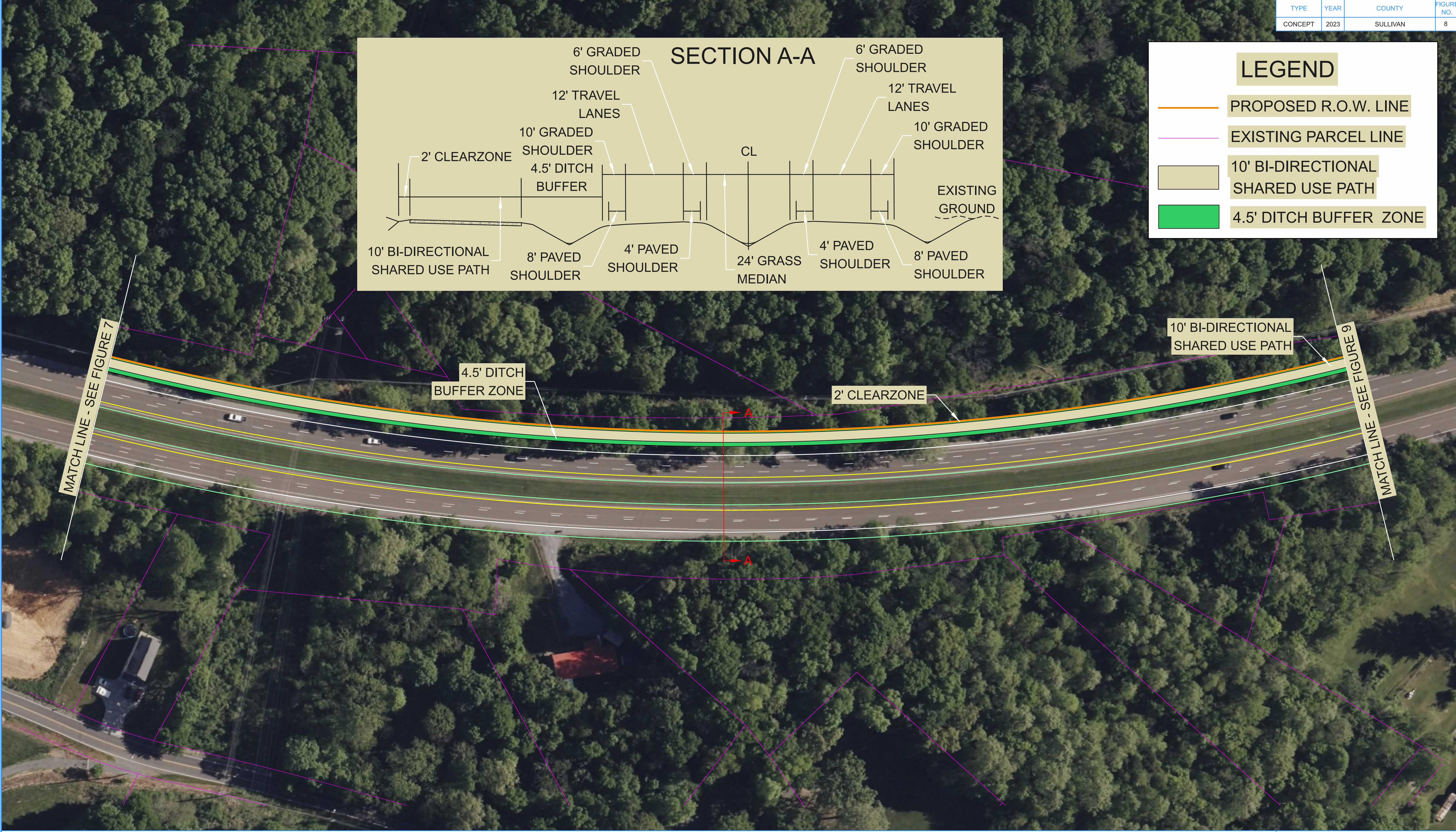
CITY OF BRISTOL

FIGURE 7
SHARED USE PATH



LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 4.5' DITCH BUFFER ZONE

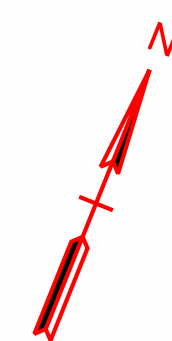
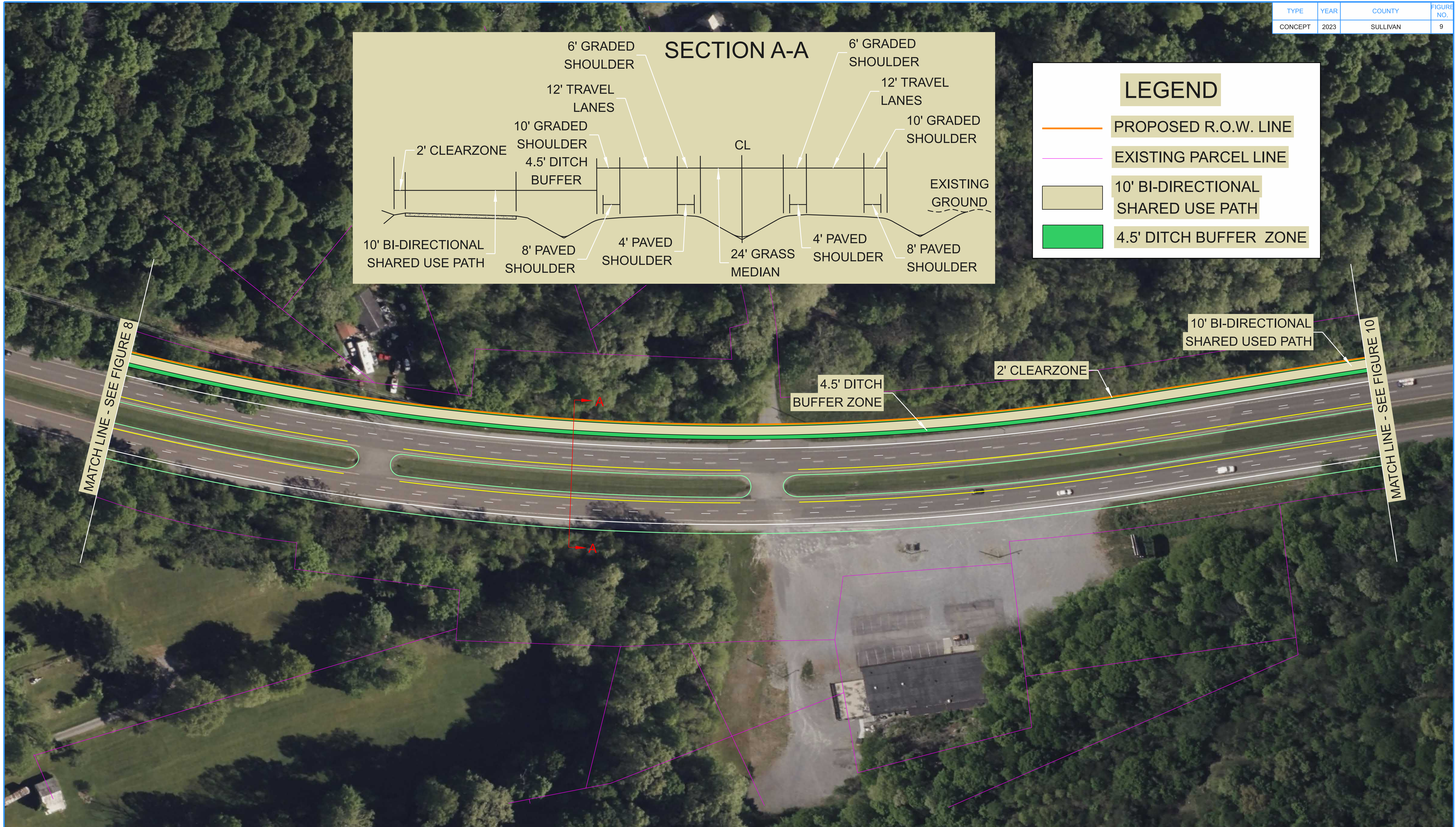
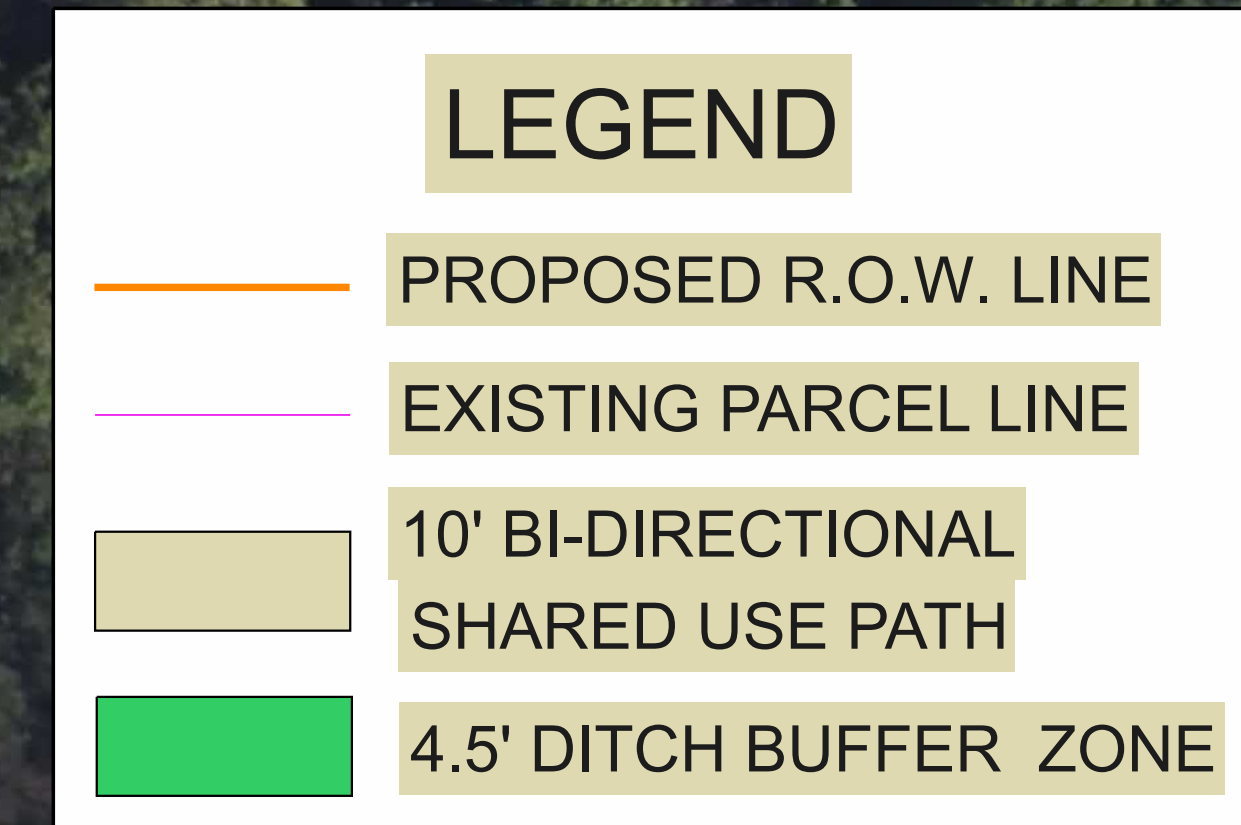
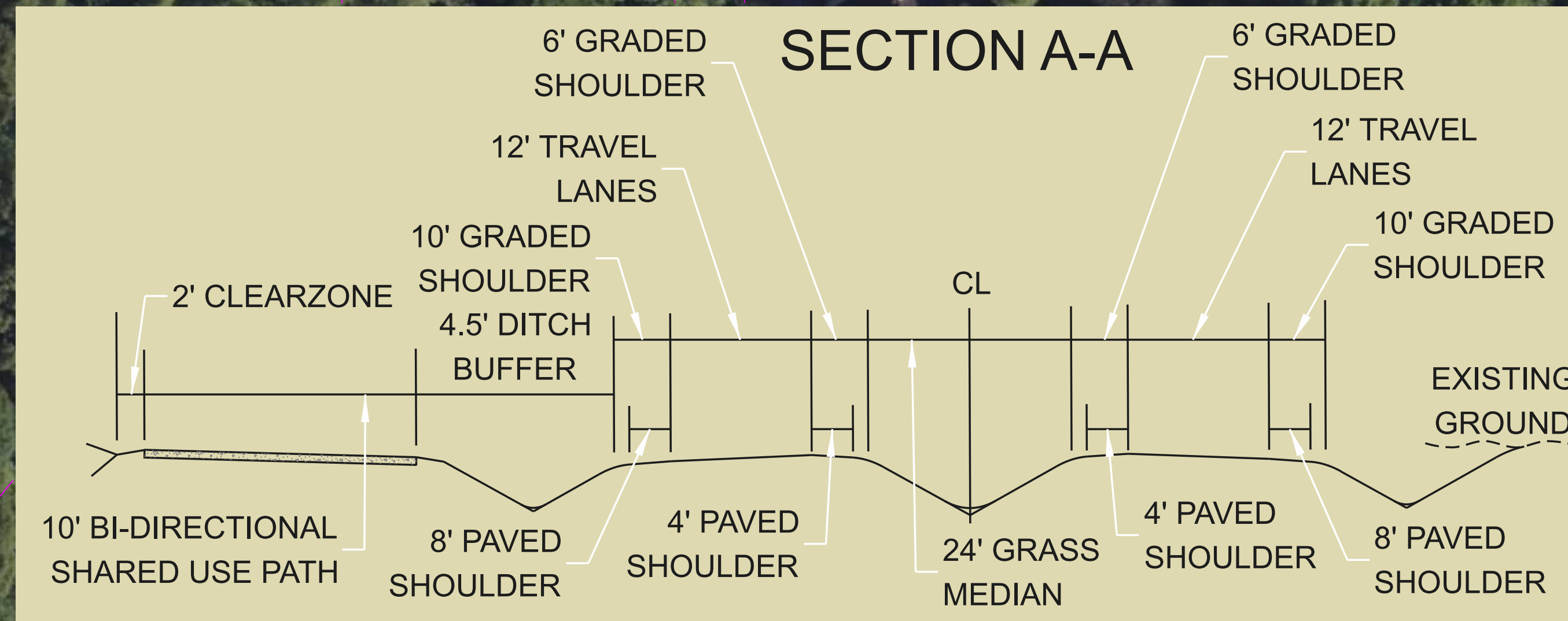


BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 8
SHARED USE PATH



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

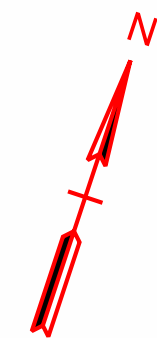
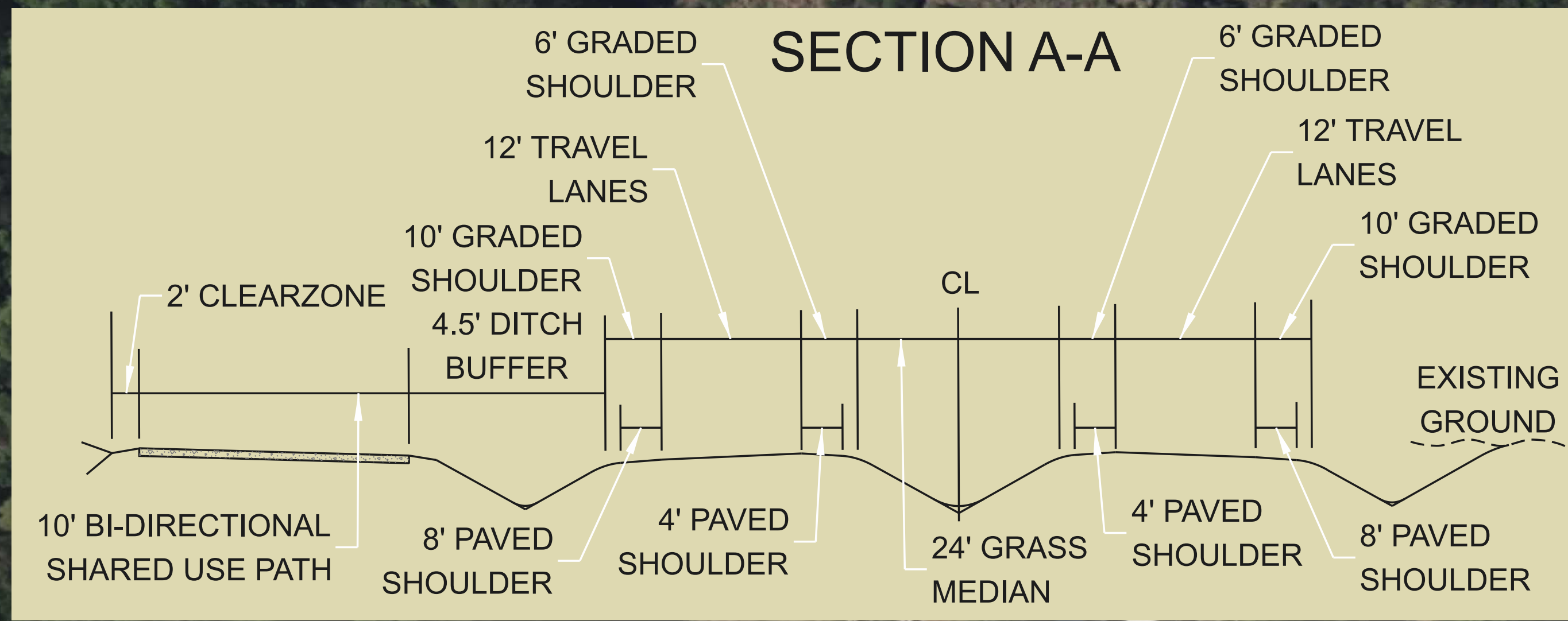
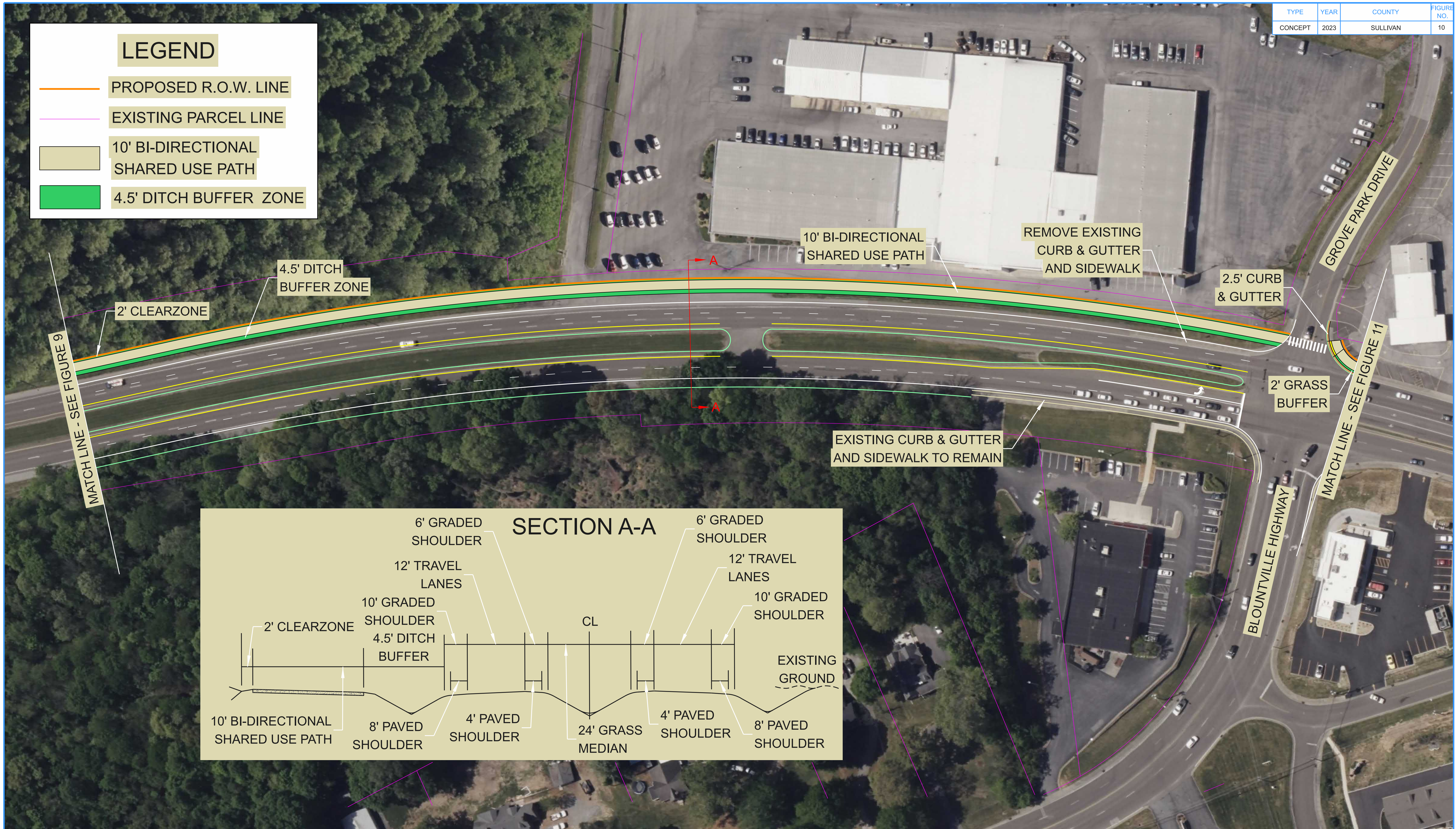
CITY OF BRISTOL

FIGURE 9
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	10

LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 4.5' DITCH BUFFER ZONE



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

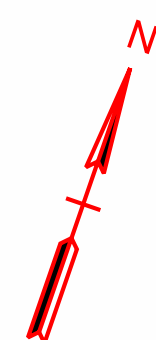
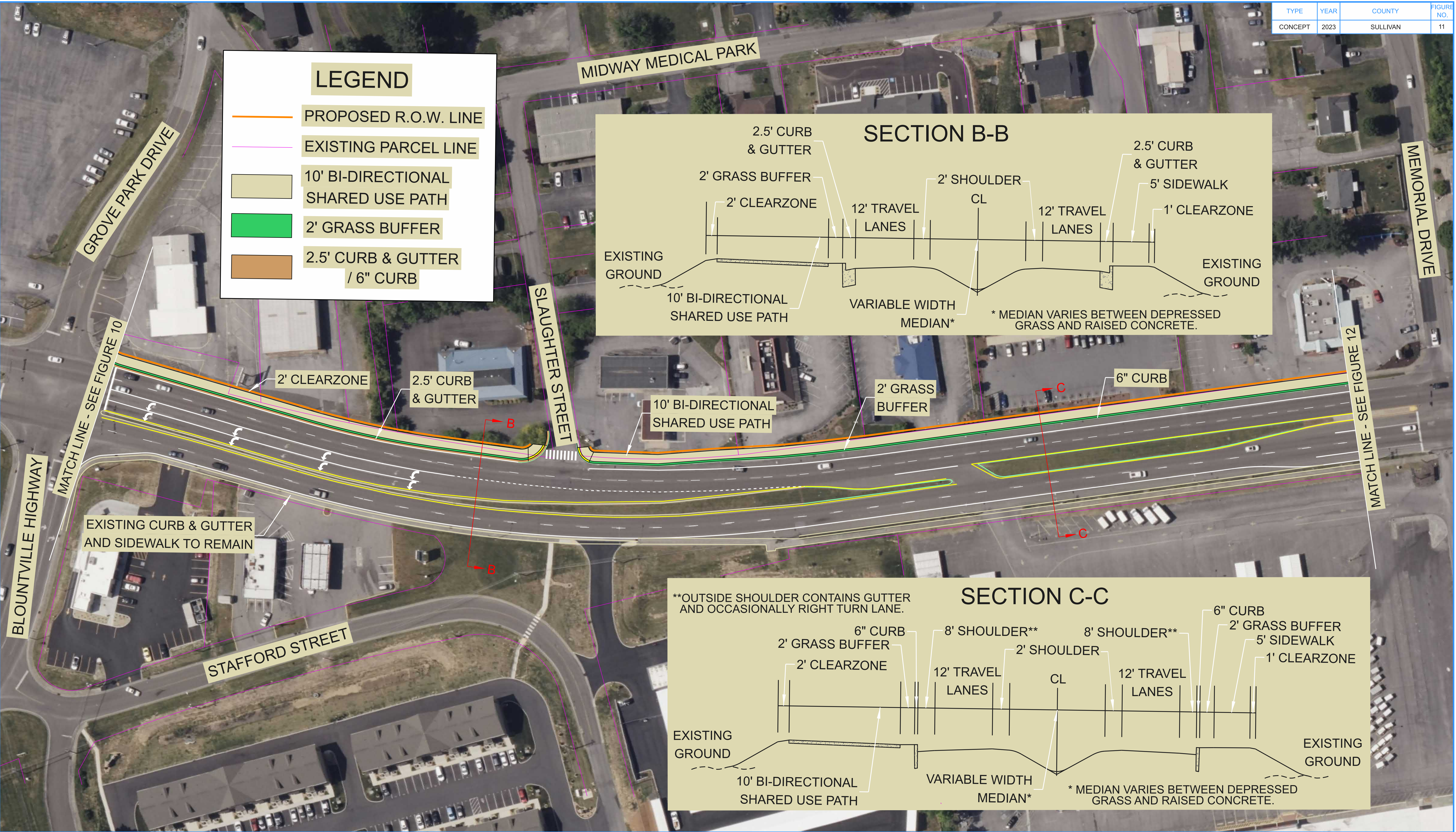
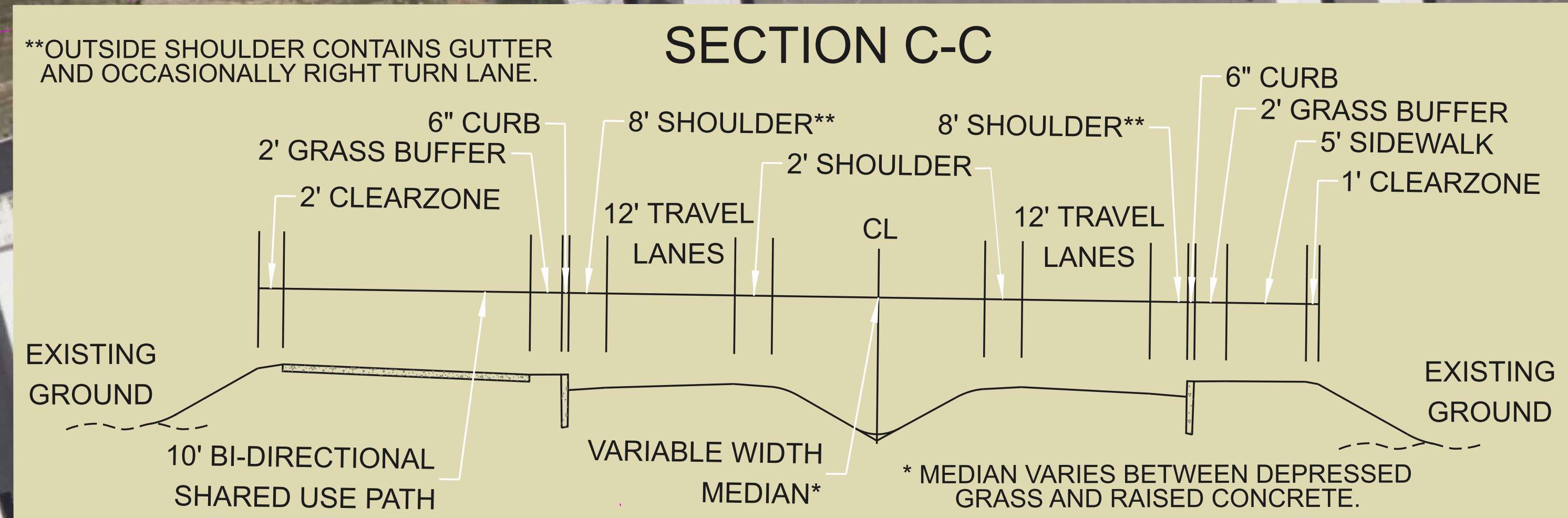
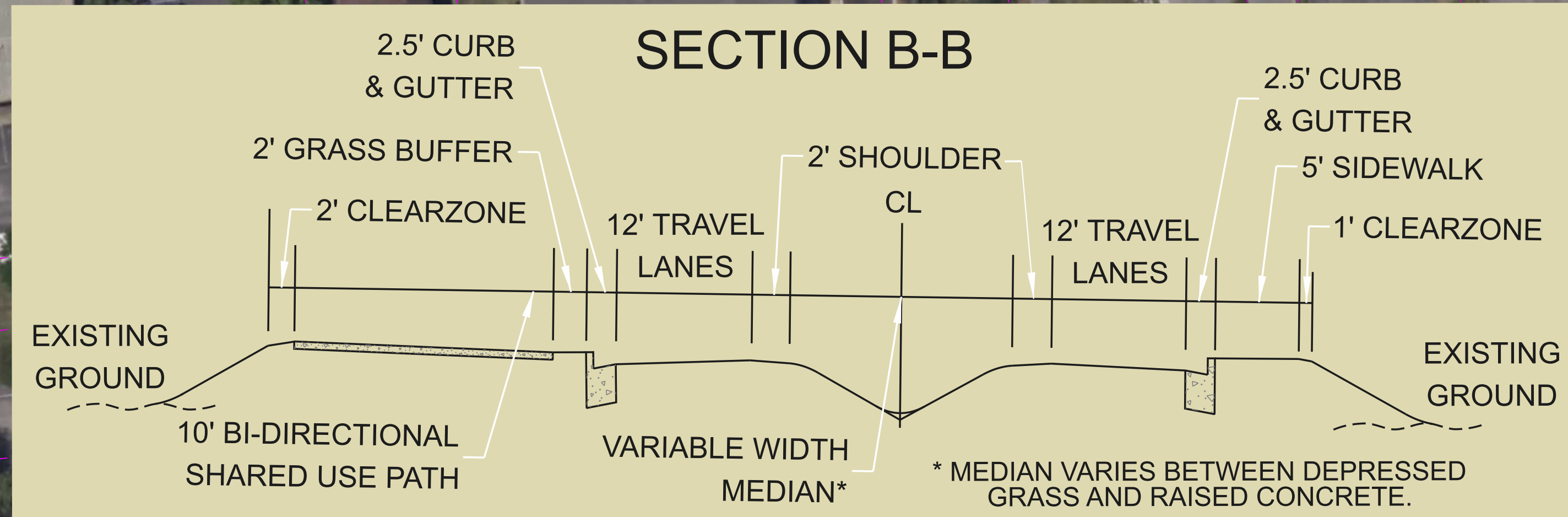
CITY OF BRISTOL

FIGURE 10
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	11

LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 2' GRASS BUFFER
- 2.5' CURB & GUTTER / 6" CURB



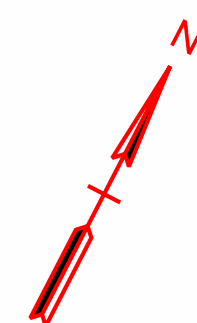
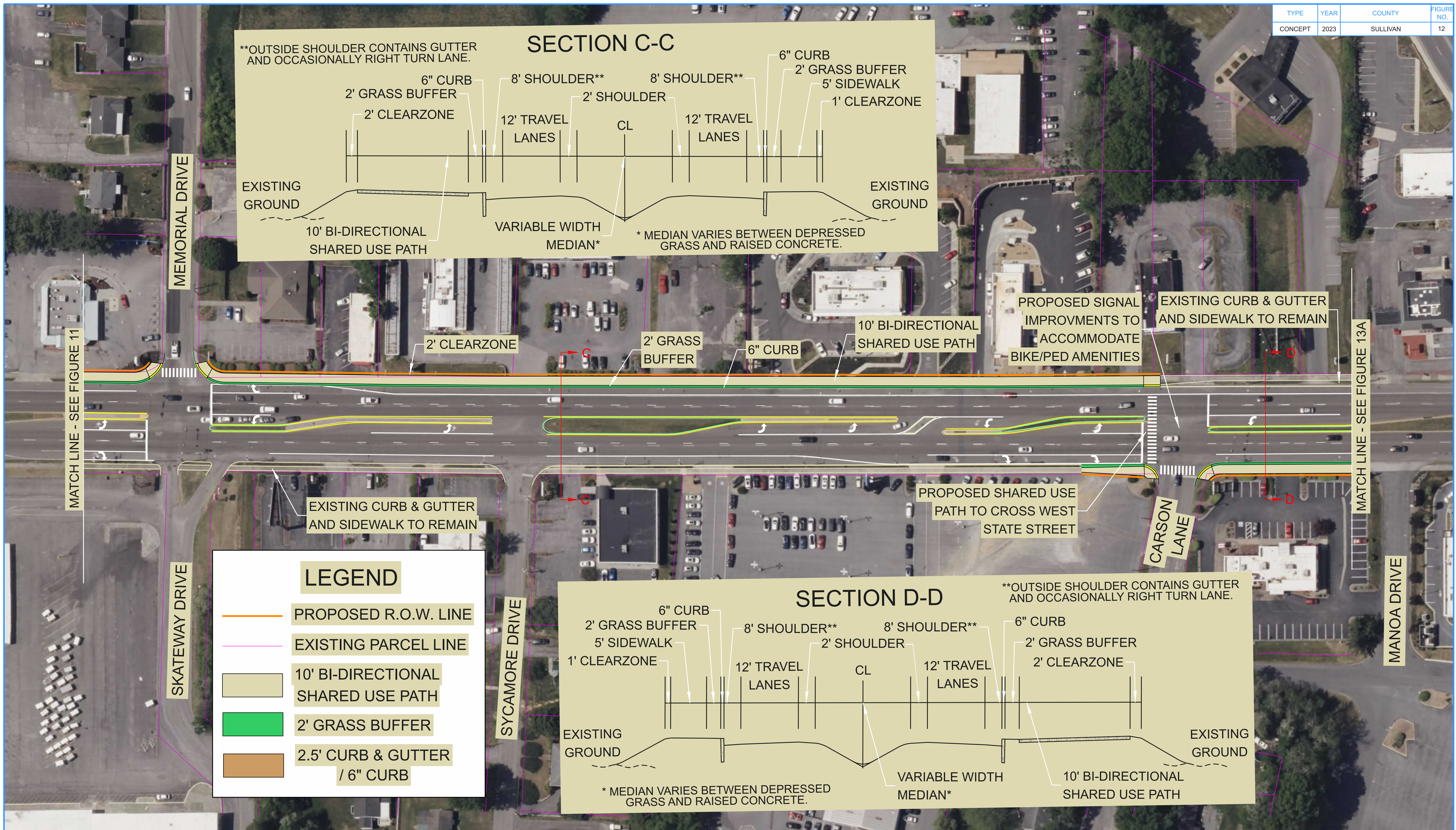
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 11
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	12



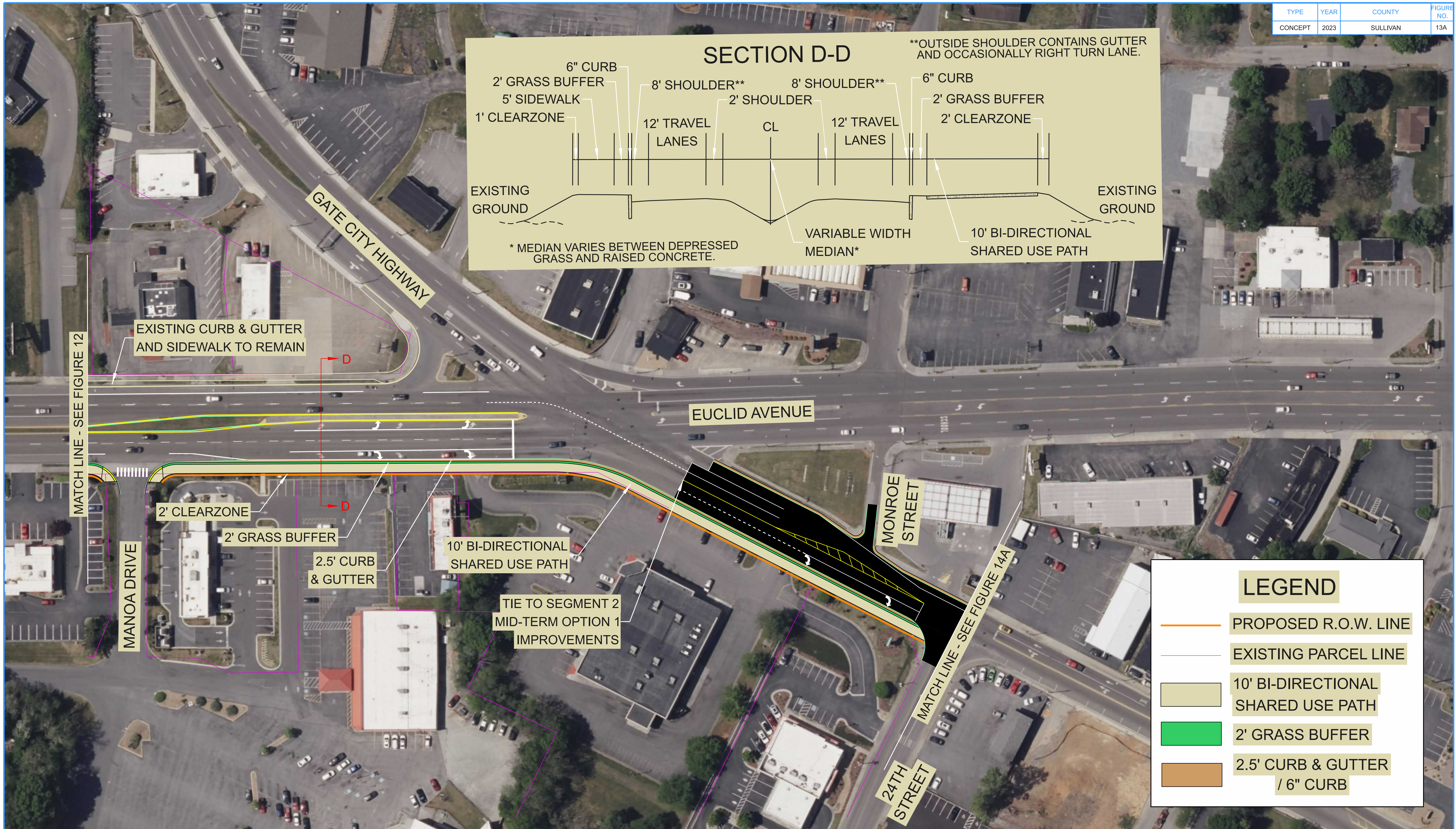
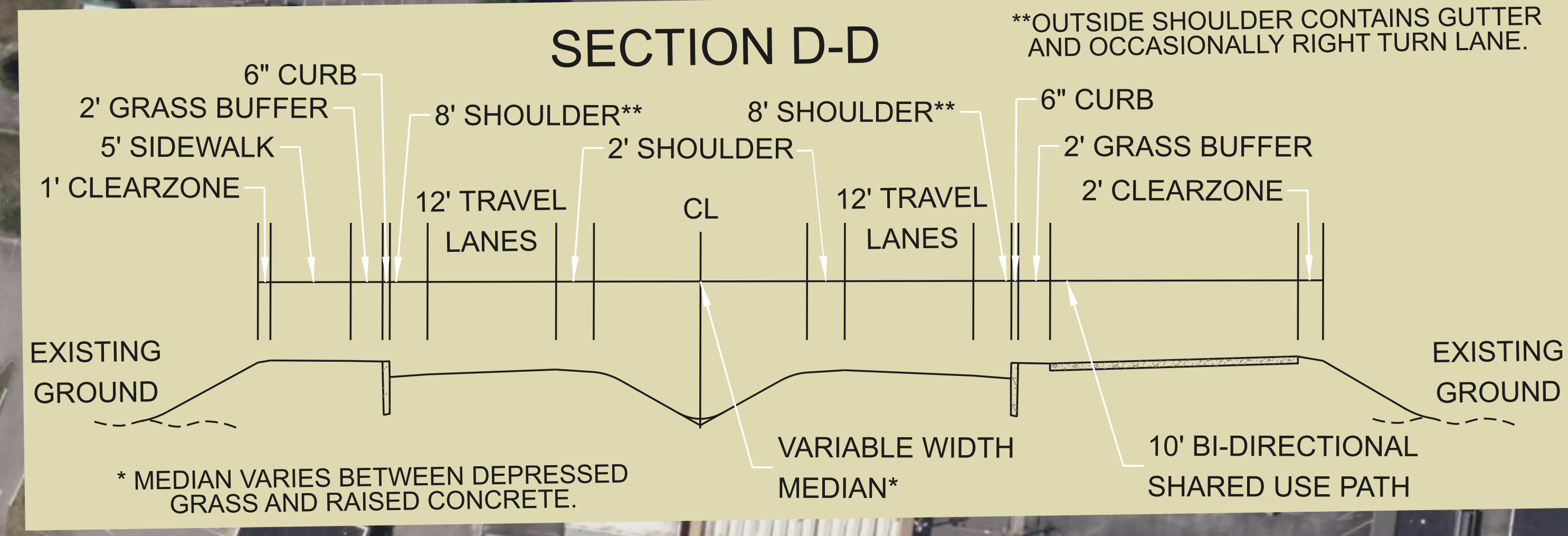
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

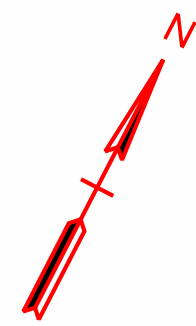
FIGURE 12
SHARED USE PATH

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	13A



LEGEND

- PROPOSED R.O.W. LINE
- EXISTING PARCEL LINE
- 10' BI-DIRECTIONAL SHARED USE PATH
- 2' GRASS BUFFER
- 2.5' CURB & GUTTER / 6" CURB



BRISTOL WEST STATE STREET CORRIDOR STUDY

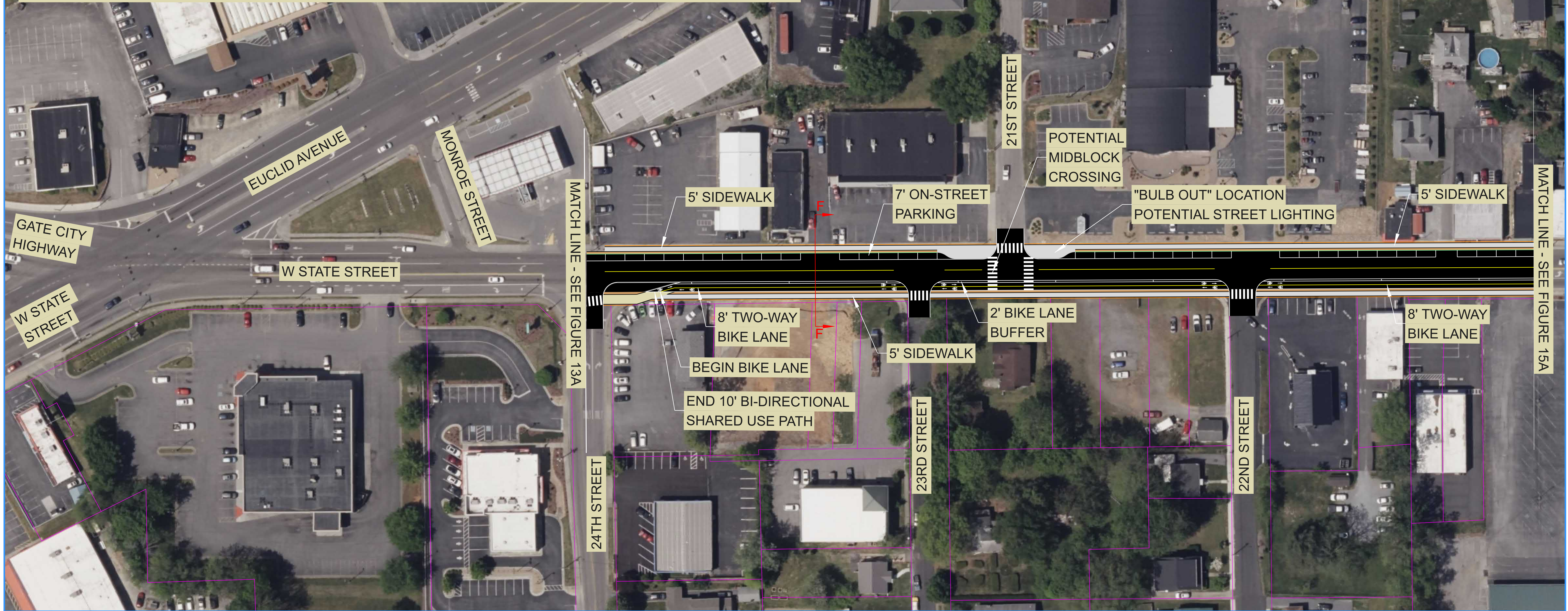
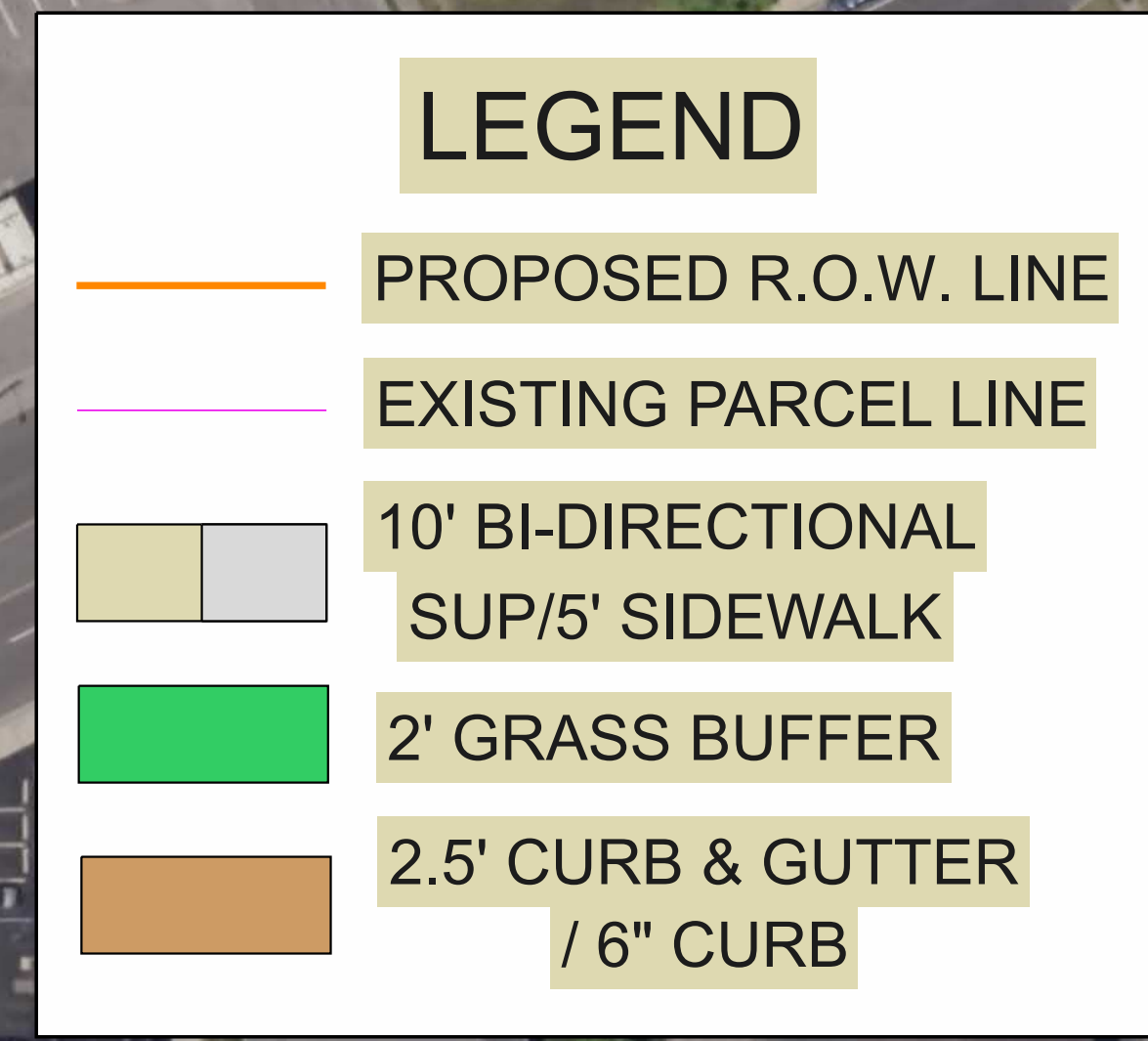
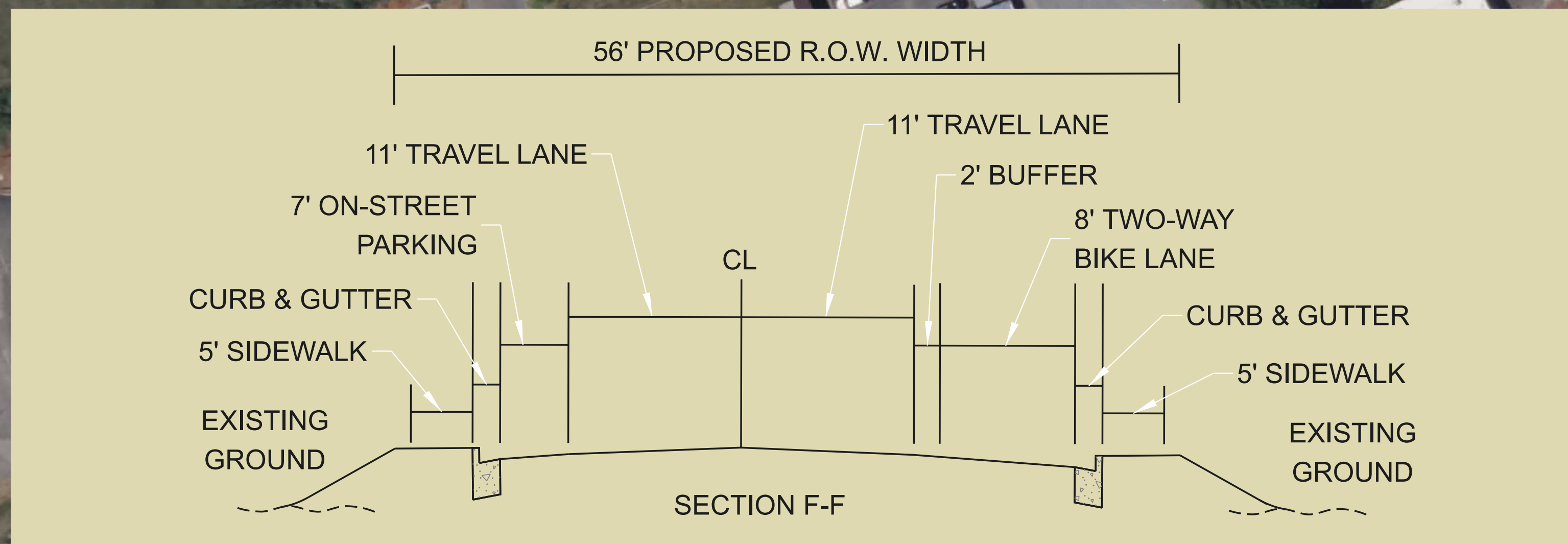
U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 13A
SHARED USE PATH
TIE TO SEGMENT 2
MID-TERM OPTION 1

Segment 2 Plan Sheets – Intermediate Option A

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	14A



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

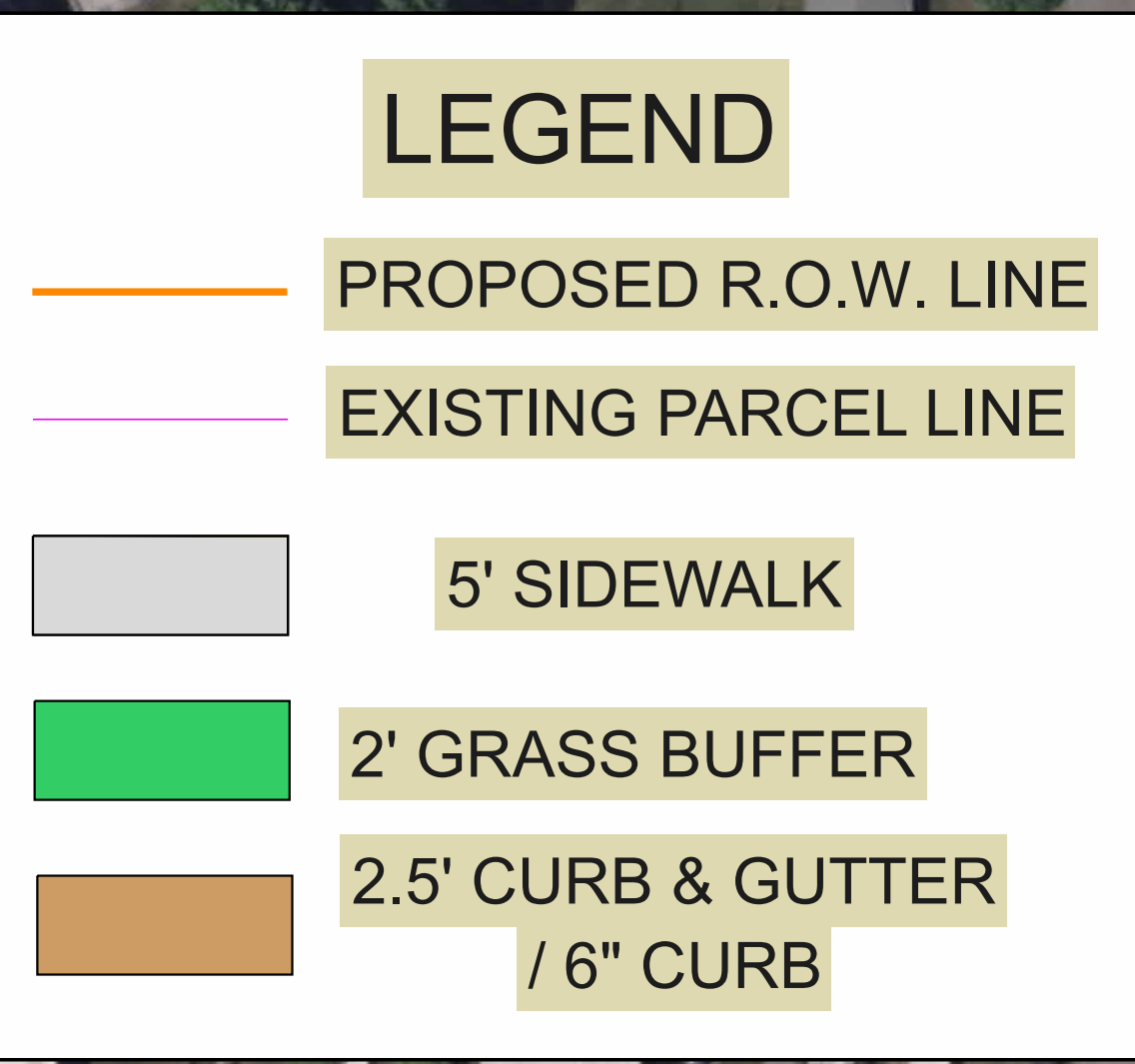
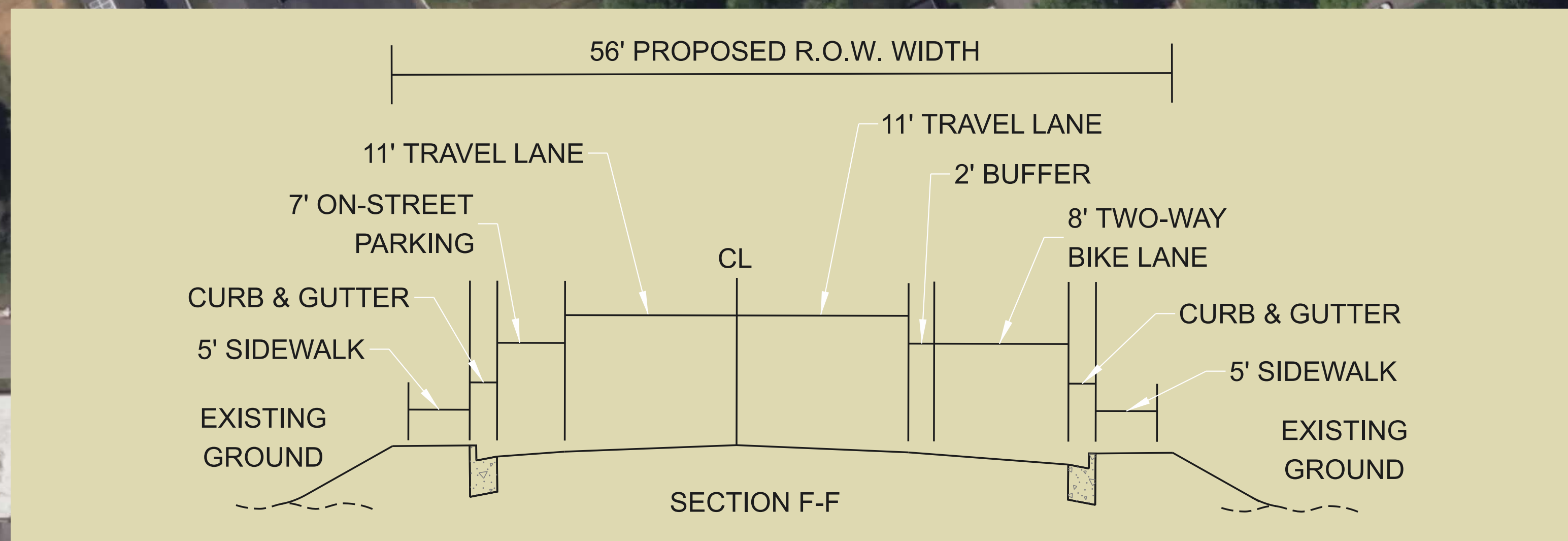
CITY OF BRISTOL

FIGURE 14A
MID-TERM IMPROVEMENTS
TYPICAL SECTION 1

7/27/2023 7:52:15 AM J:\182918 TDOT REG PLANNING ON-CALL\182918K - BRISTOL WEST STATE STREET CORRIDOR STUDY\5.0 PROJECT DATA\5.0 RECOMMENDATIONS AND REPORT\CONCEPT DRAWINGS\BRISTOL CORRIDOR STUDY - CONCEPT DRAWINGS.DGN



TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	15A



BRISTOL WEST STATE STREET CORRIDOR STUDY

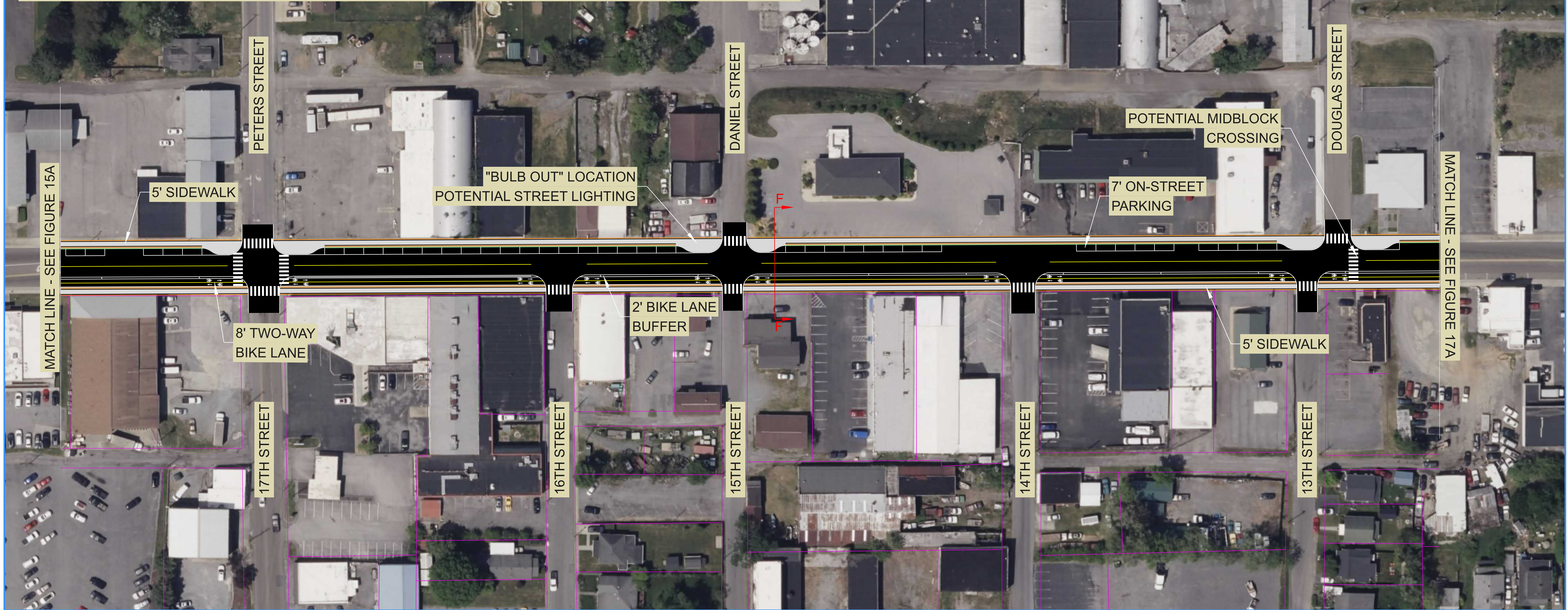
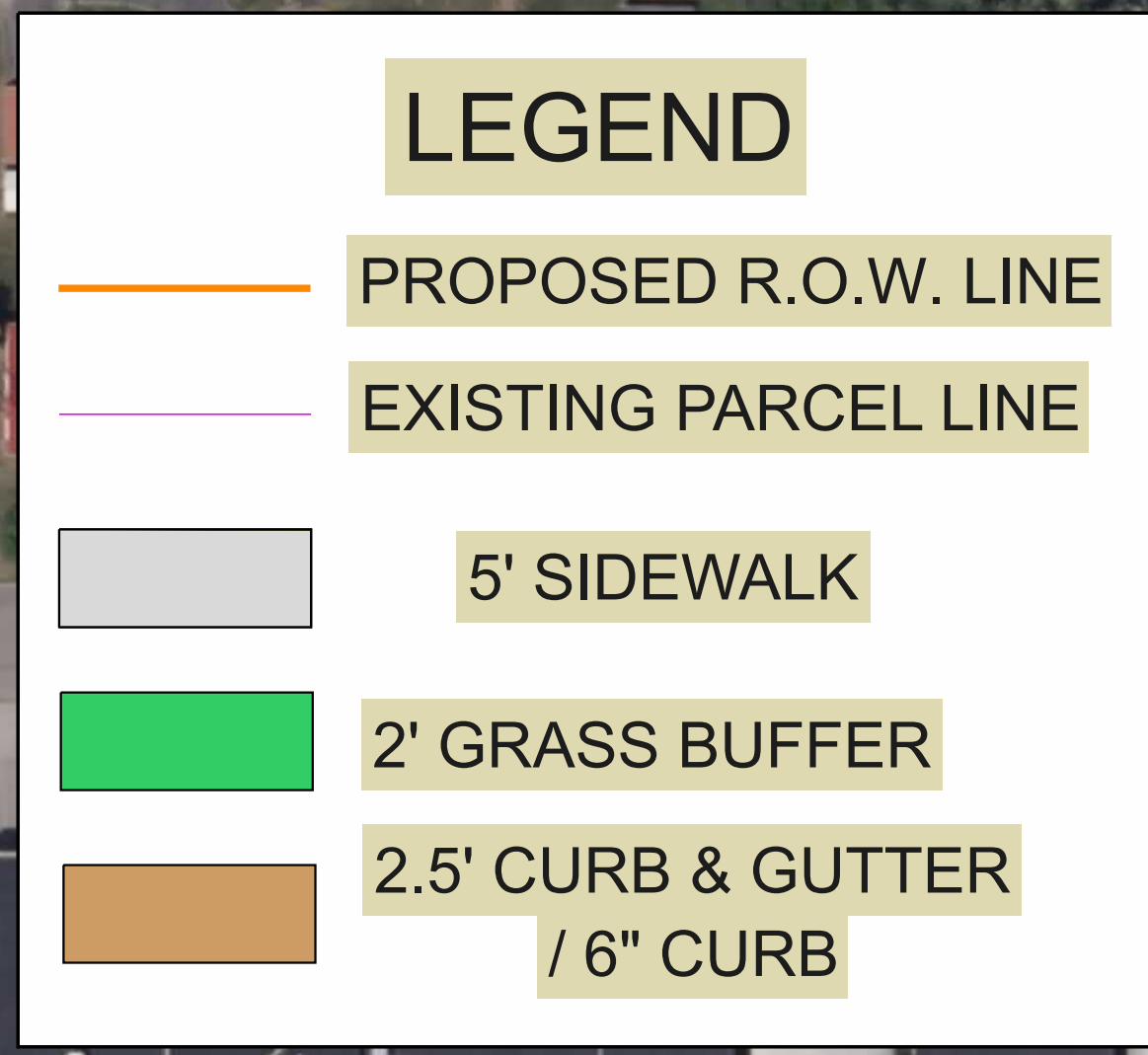
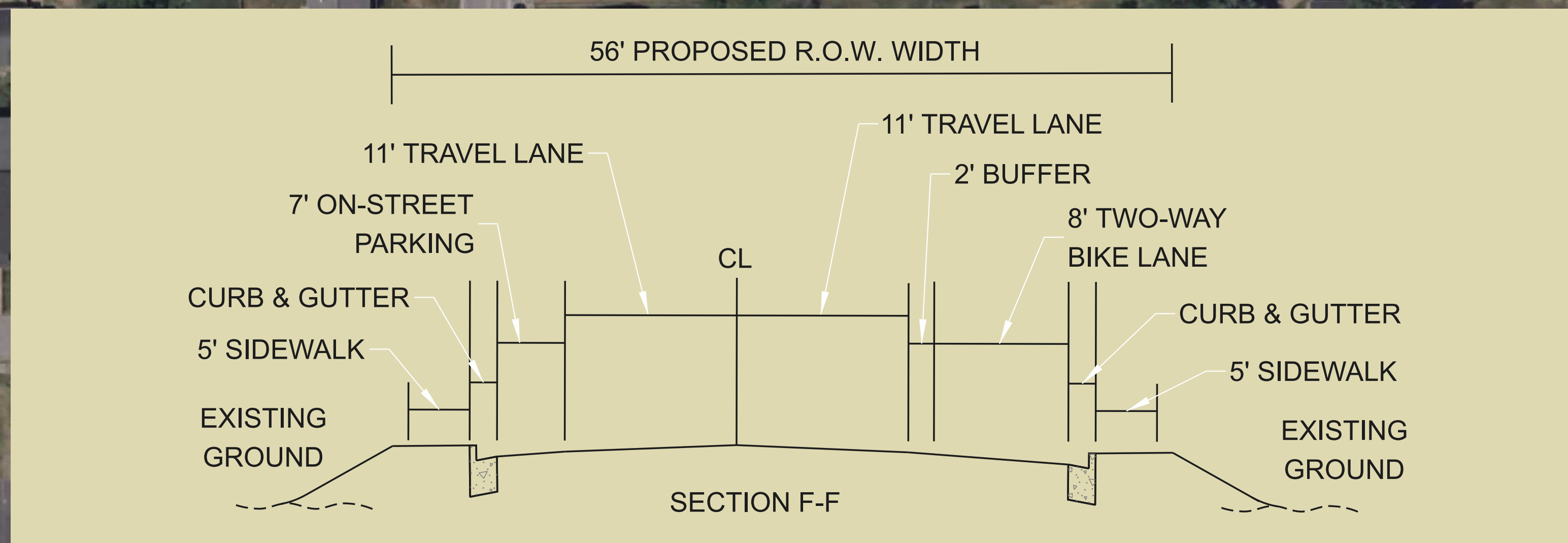
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 15A
MID-TERM IMPROVEMENTS
TYPICAL SECTION 1

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TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	16A



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

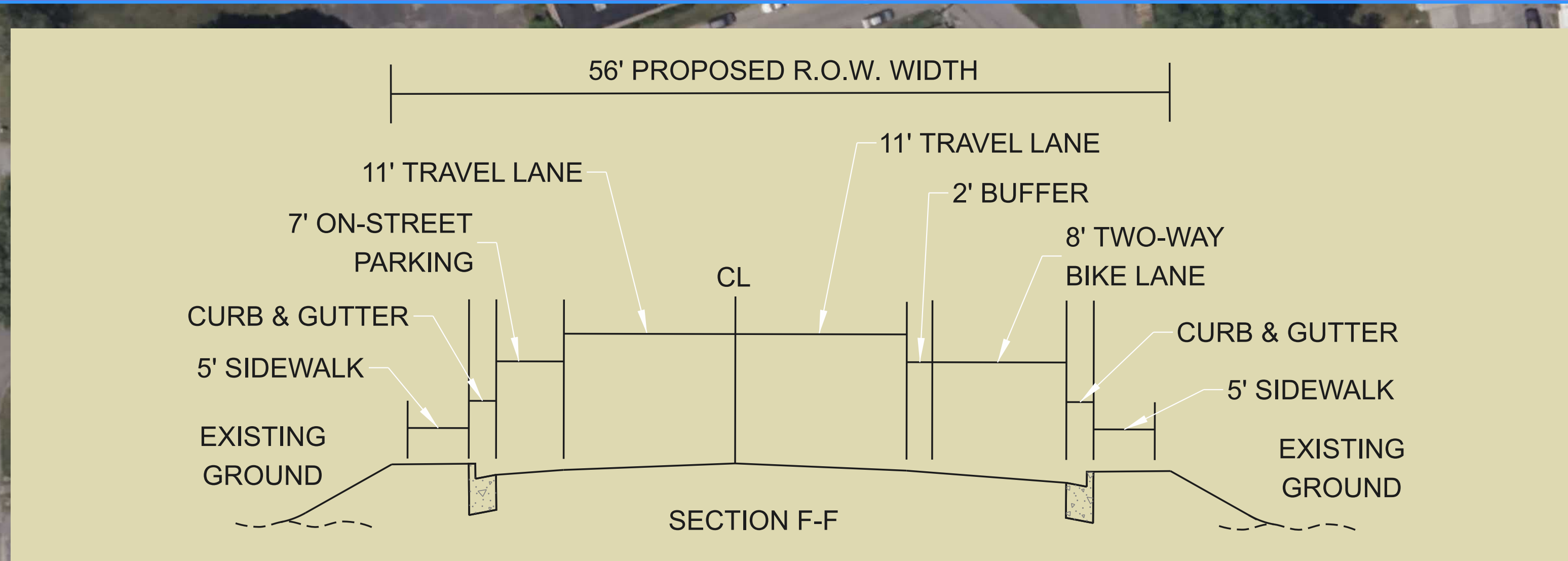
CITY OF BRISTOL

FIGURE 16A
MID-TERM IMPROVEMENTS
TYPICAL SECTION 1



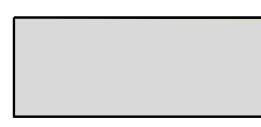


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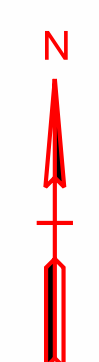


TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	17A



LEGEND

-  PROPOSED R.O.W. LINE
-  EXISTING PARCEL LINE
-  5' SIDEWALK
-  2' GRASS BUFFER
-  2.5' CURB & GUTTER / 6" CURB



BRISTOL WEST STATE STREET CORRIDOR STUDY

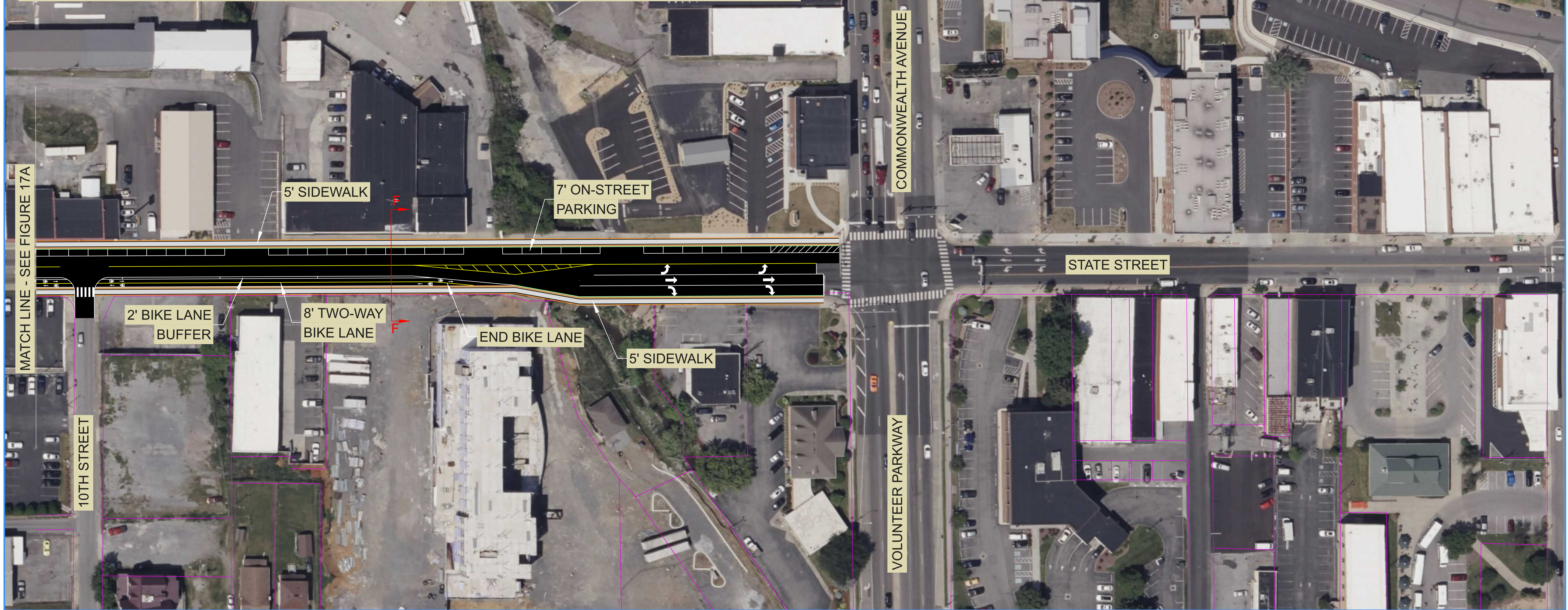
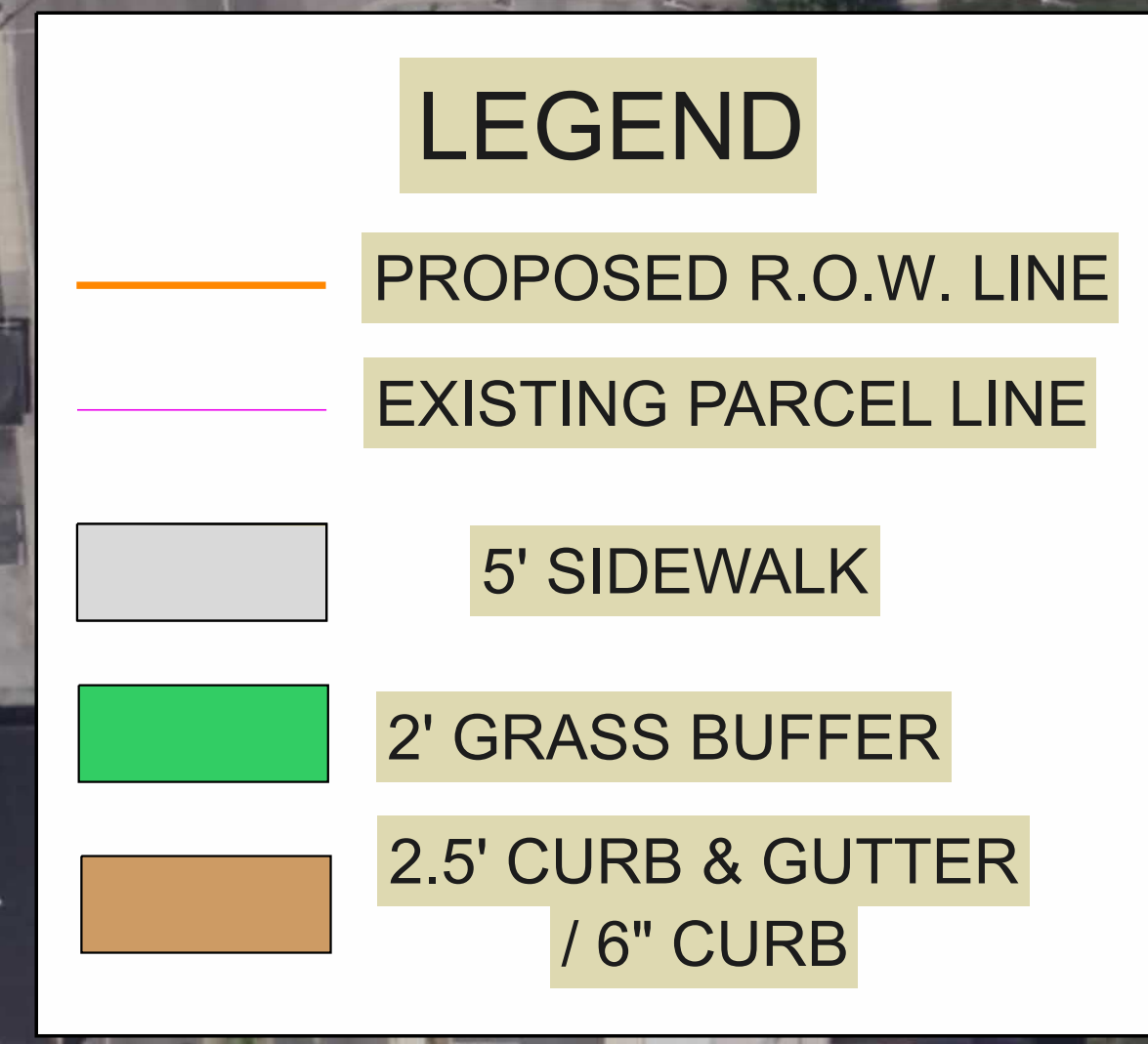
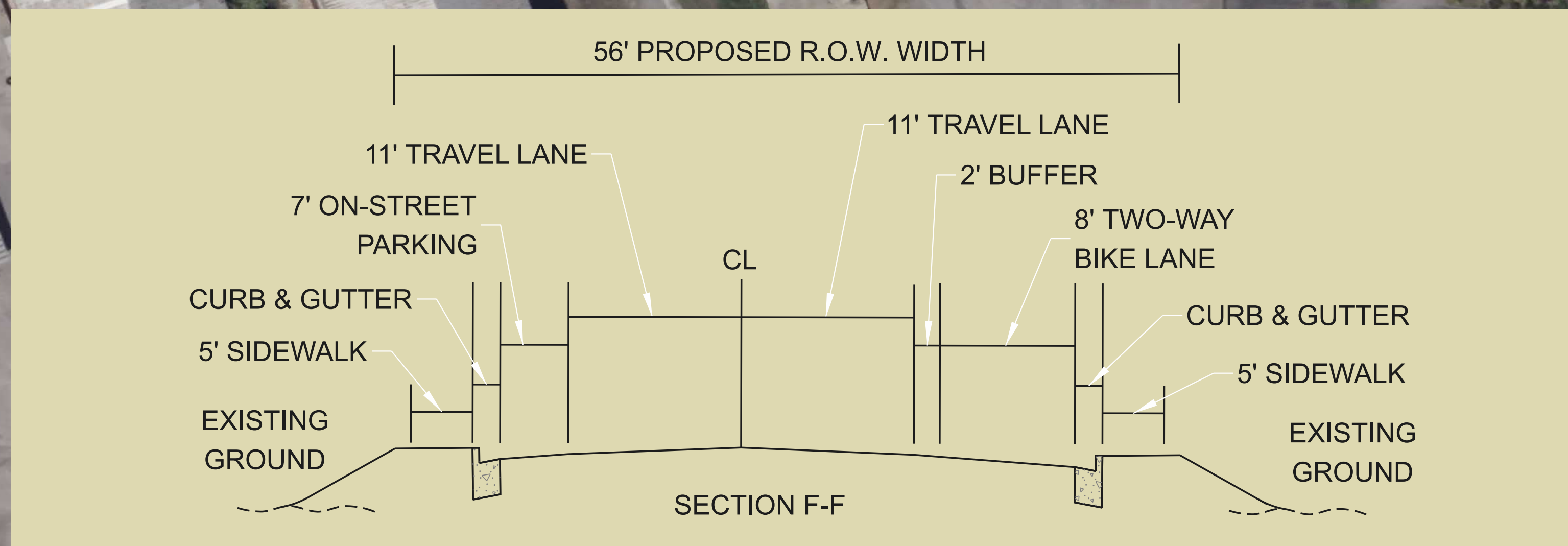
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

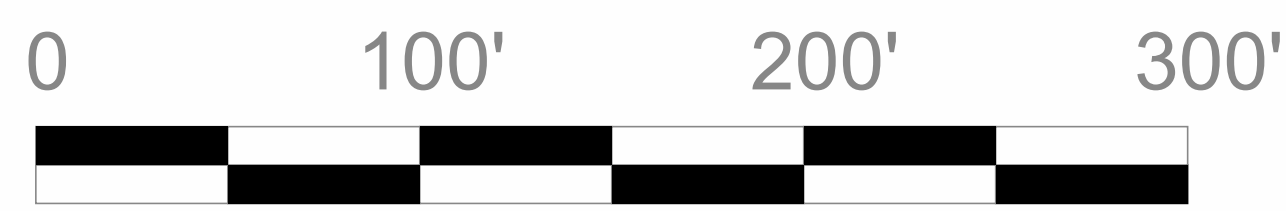
FIGURE 17A
MID-TERM IMPROVEMENTS
TYPICAL SECTION 1

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TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	18A



MATCH LINE - SEE FIGURE 17A



BRISTOL WEST STATE STREET CORRIDOR STUDY

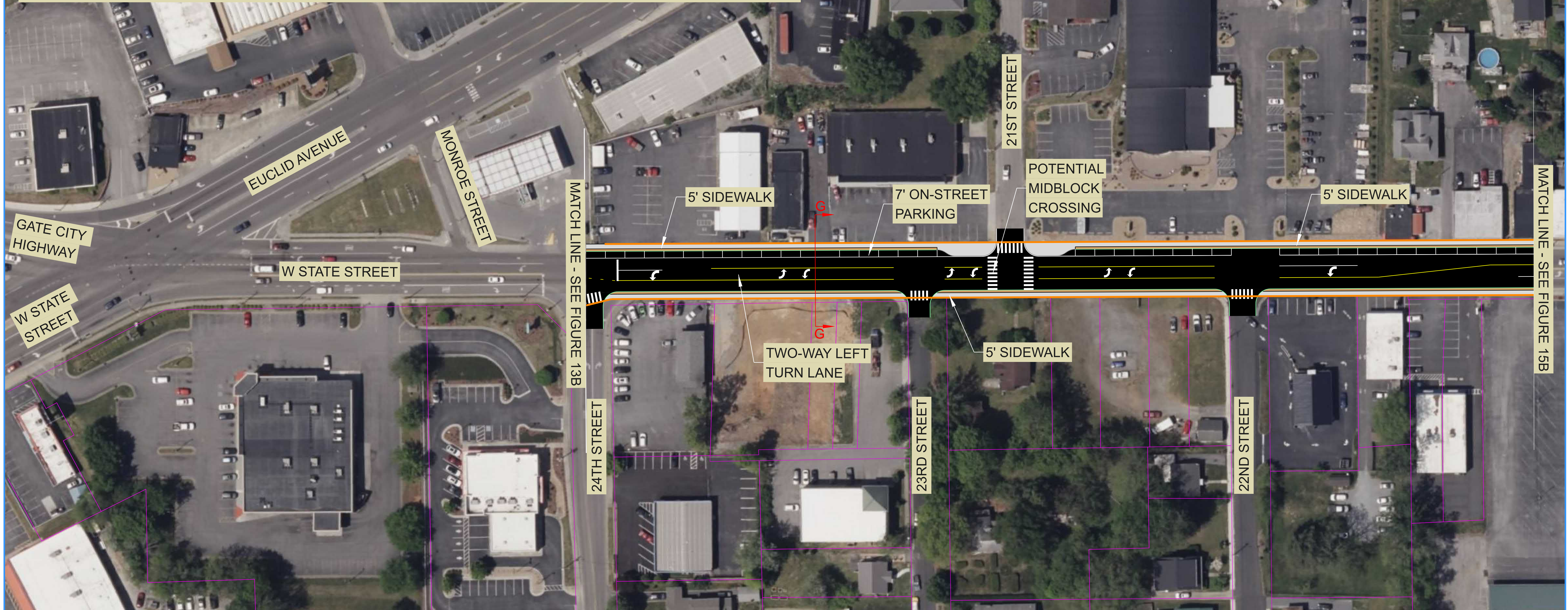
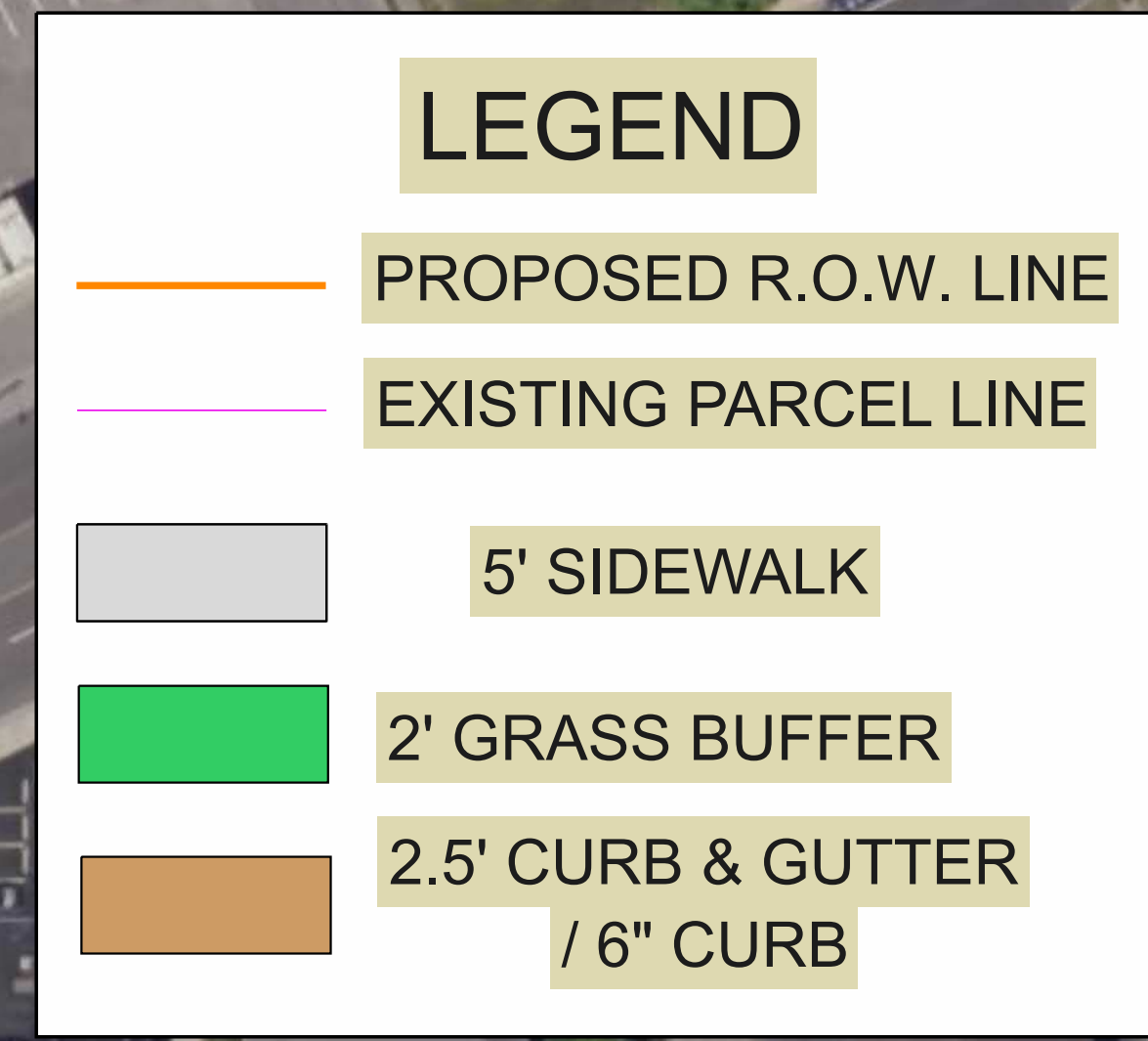
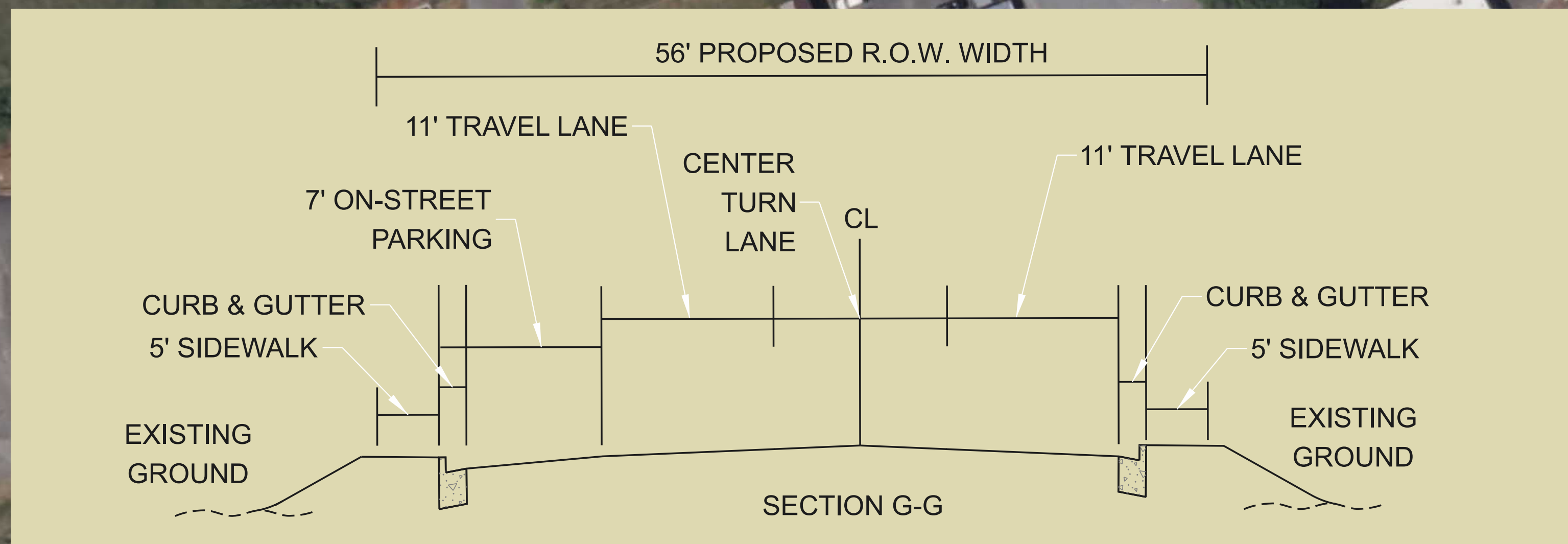
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 18A
MID-TERM IMPROVEMENTS
TYPICAL SECTION 1

Segment 2 Plan Sheets - Intermediate Option B

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	14B



BRISTOL WEST STATE STREET CORRIDOR STUDY

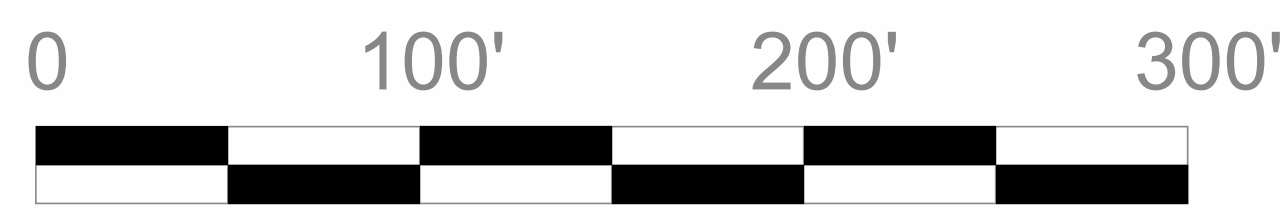
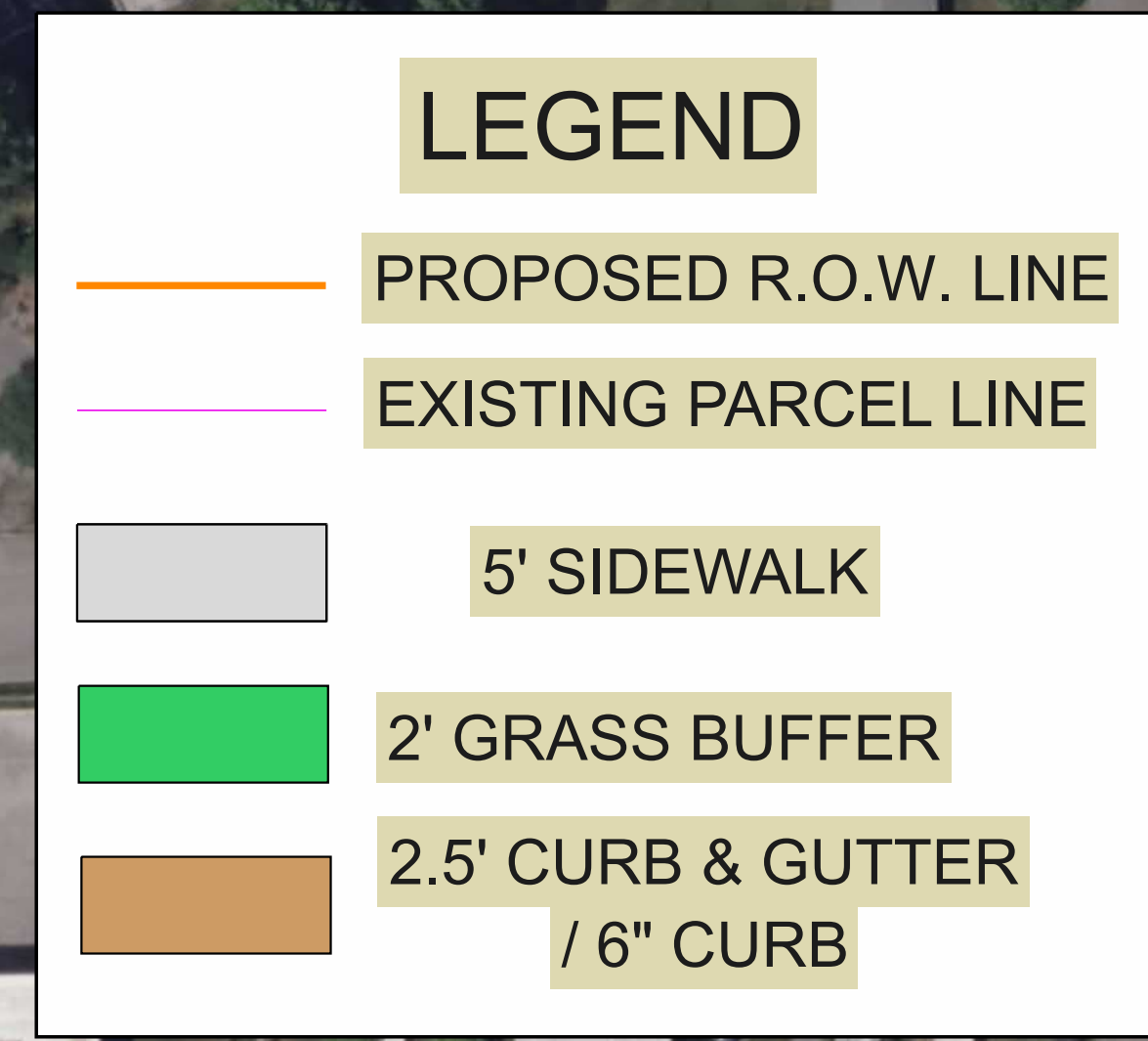
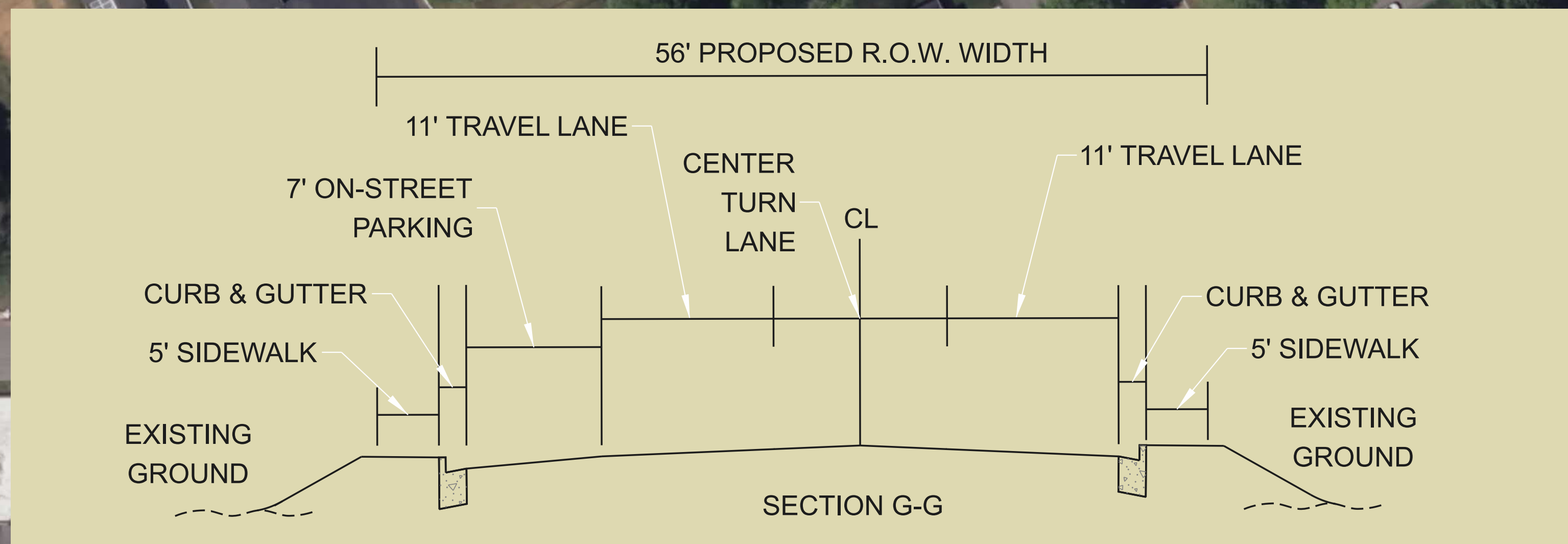
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 14B
MID-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE

7/27/2023 8:01:07 AM J:\182918 TDOT REG PLANNING ON-CALL\182918K - BRISTOL WEST STATE STREET CORRIDOR STUDY\5.0 PROJECT DATA\5.0 RECOMMENDATIONS AND REPORT\CONCEPT DRAWINGS\BRISTOL CORRIDOR STUDY - CONCEPT DRAWINGS.DGN

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	15B



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

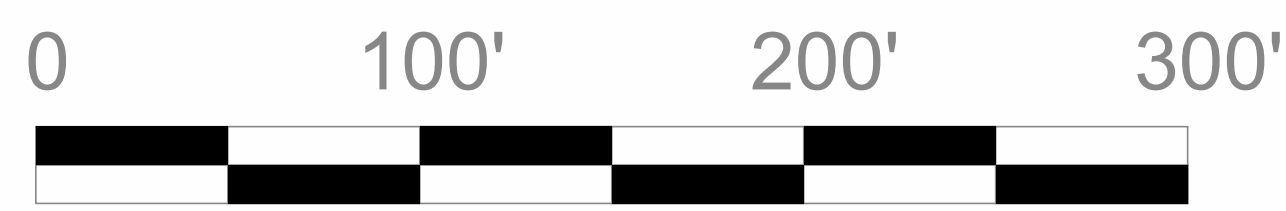
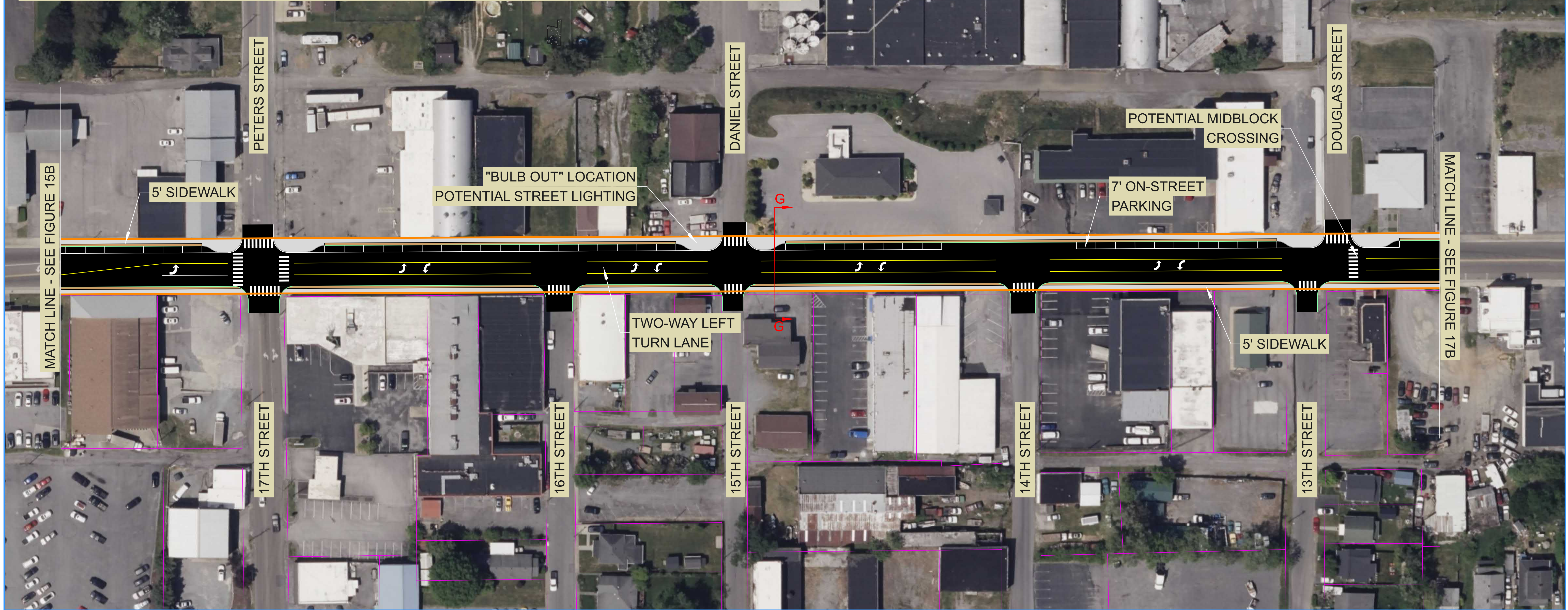
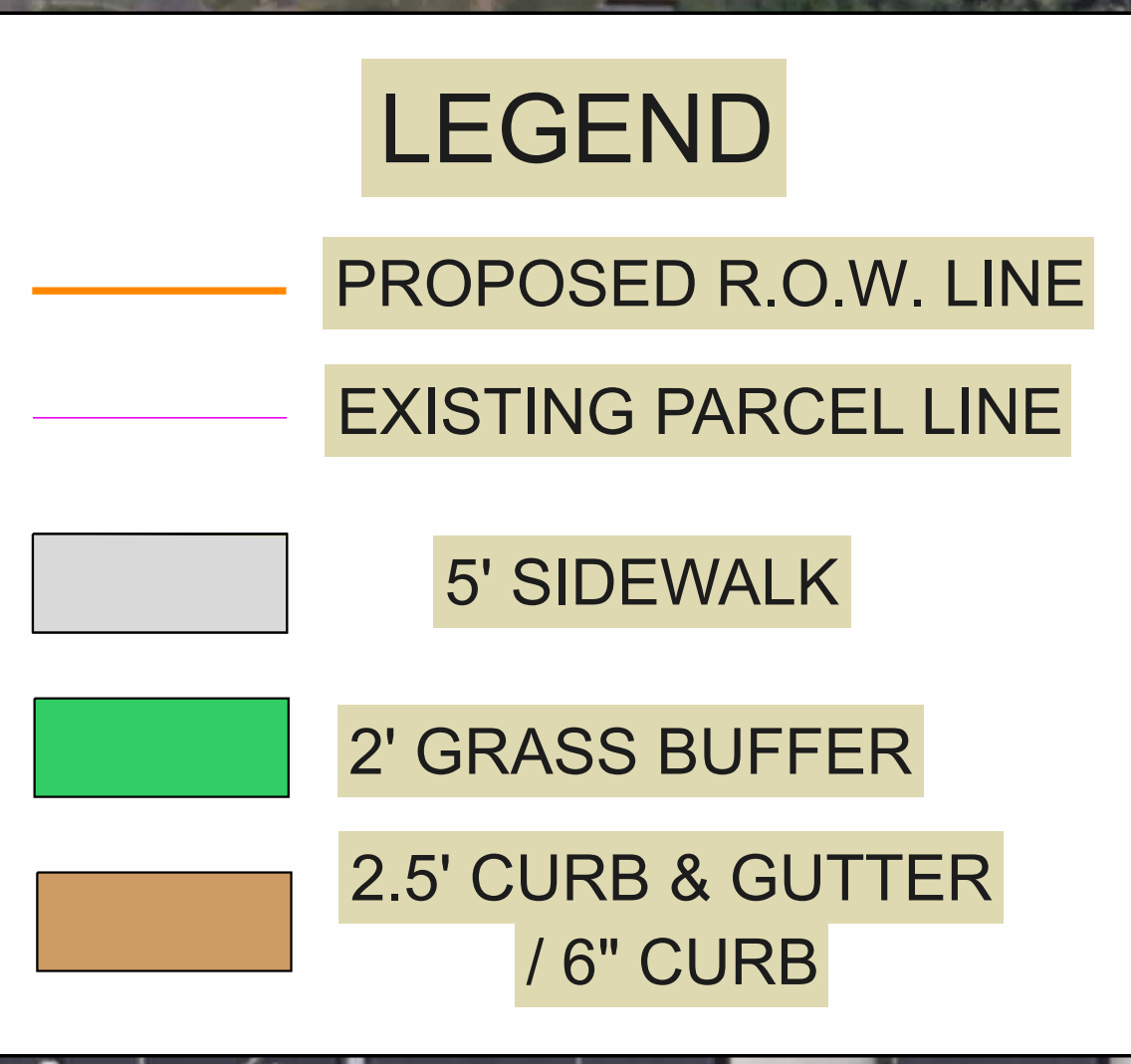
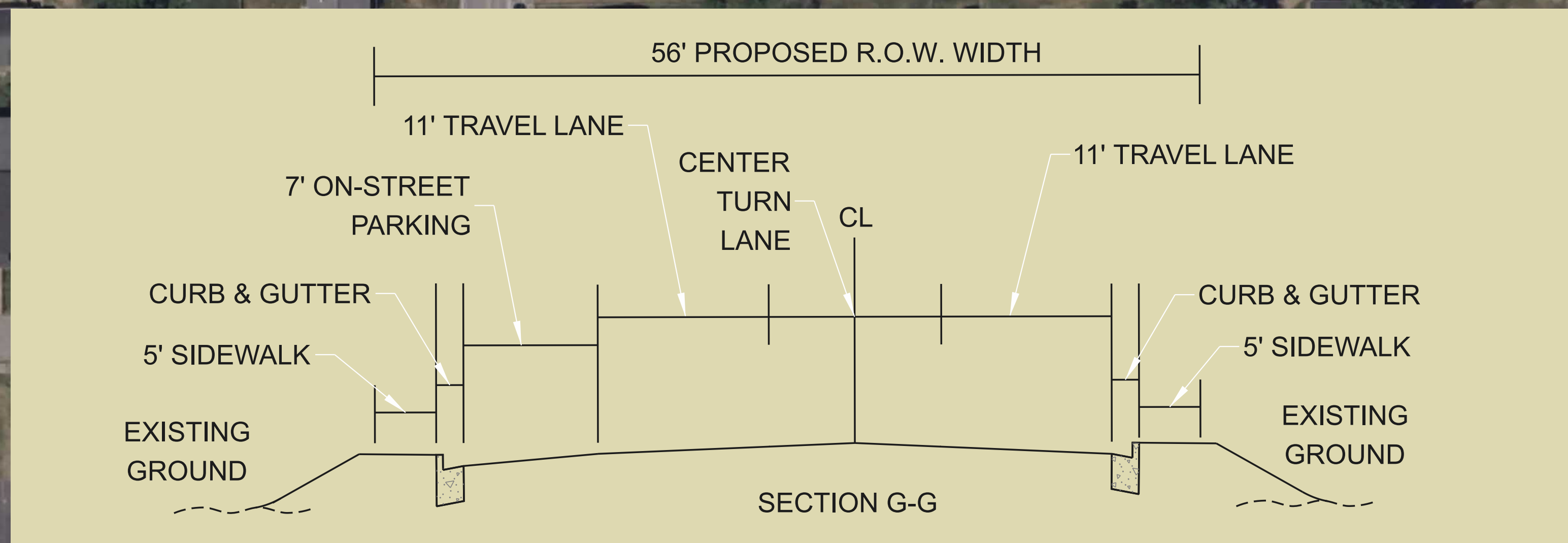
CITY OF BRISTOL

FIGURE 15B
MID-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE

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TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	16B



BRISTOL WEST STATE STREET CORRIDOR STUDY

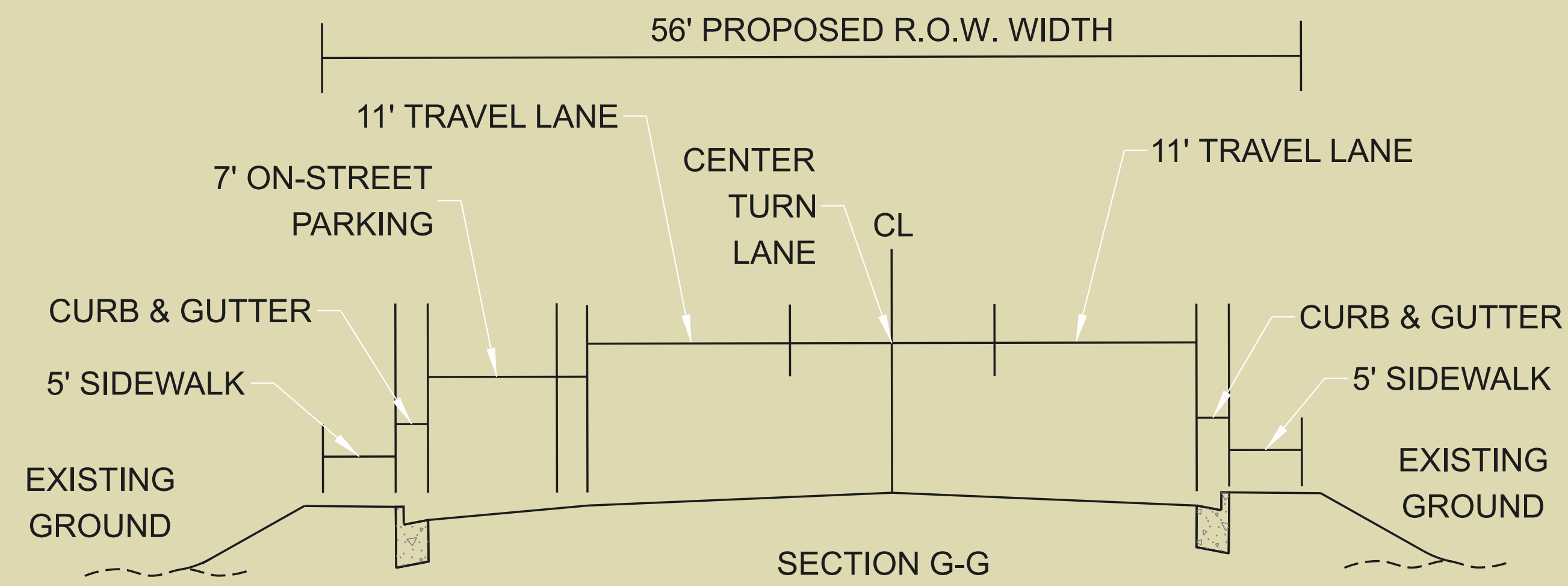
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL



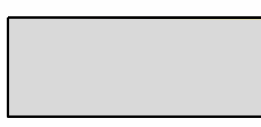


FIGURE 16B
MID-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE

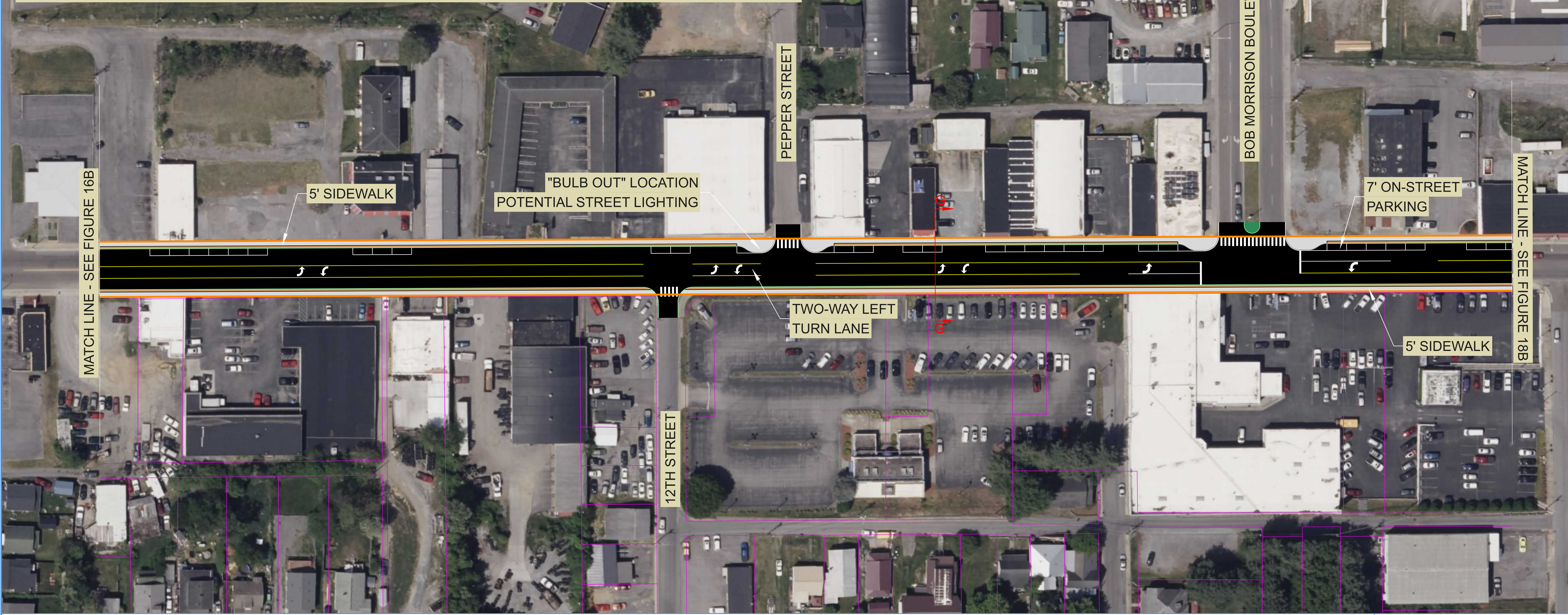
7/27/2023 8:07:06 AM J:\182918 TDOT REG PLANNING ON-CALL\182918K - BRISTOL WEST STATE STREET CORRIDOR STUDY\5.0 PROJECT DATA\5.0 RECOMMENDATIONS AND REPORT\CONCEPT DRAWINGS\BRISTOL CORRIDOR STUDY - CONCEPT DRAWINGS.DGN

TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	17B



LEGEND

-  PROPOSED R.O.W. LINE
-  EXISTING PARCEL LINE
-  5' SIDEWALK
-  2' GRASS BUFFER
-  2.5' CURB & GUTTER / 6" CURB



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

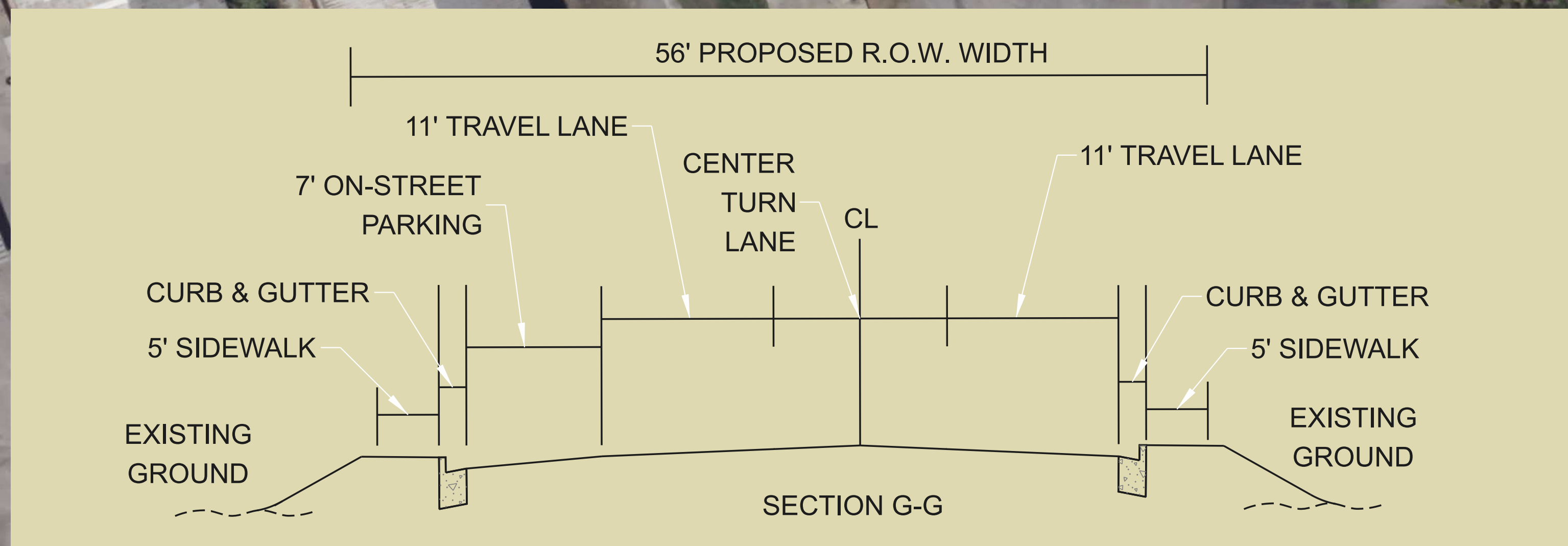
FIGURE 17B
MID-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE

7/27/2023 8:08:51 AM J:\182918 TDOT REG PLANNING ON-CALL\182918K - BRISTOL WEST STATE STREET CORRIDOR STUDY\5.0 PROJECT DATA\5.0 RECOMMENDATIONS AND REPORT\CONCEPT DRAWINGS\BRISTOL CORRIDOR STUDY - CONCEPT DRAWINGS.DGN



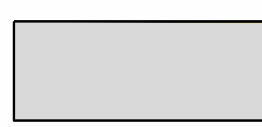


MATCH LINE - SEE FIGURE 16B

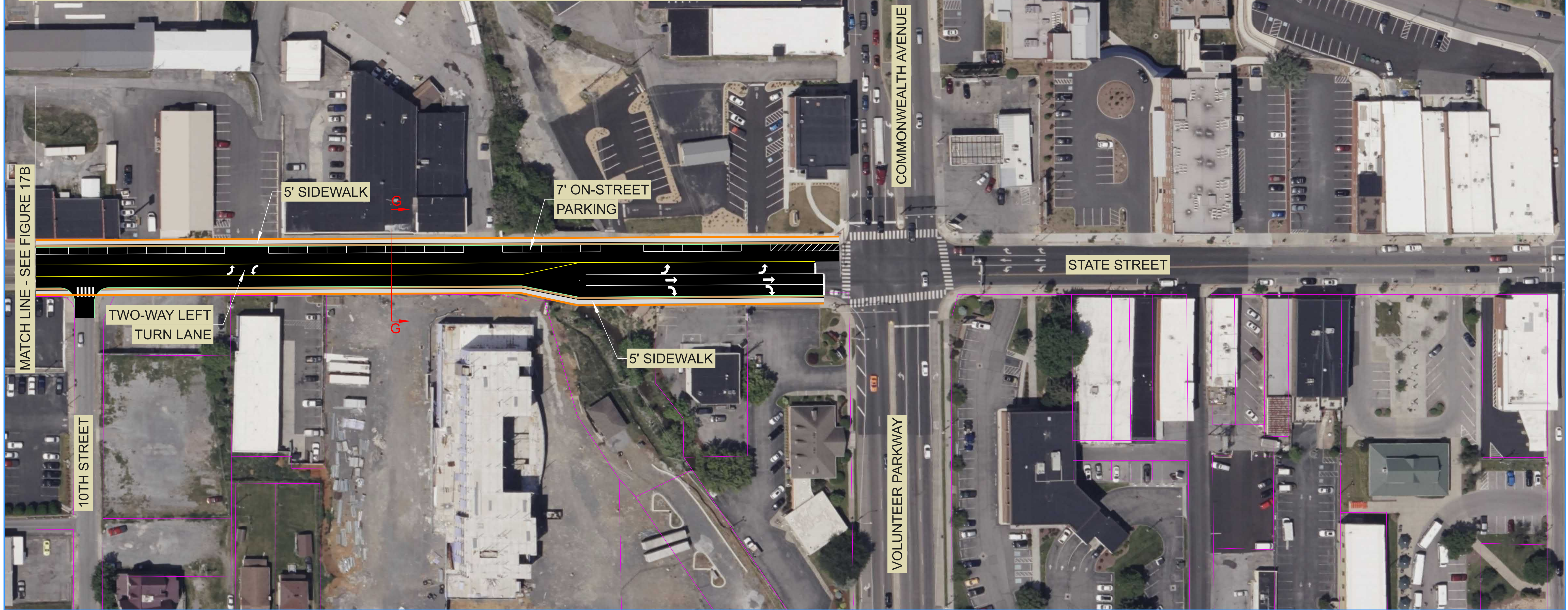
MATCH LINE - SEE FIGURE 18B

TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	18B



LEGEND

-  PROPOSED R.O.W. LINE
-  EXISTING PARCEL LINE
-  5' SIDEWALK
-  2' GRASS BUFFER
-  2.5' CURB & GUTTER / 6" CURB



BRISTOL WEST STATE STREET CORRIDOR STUDY

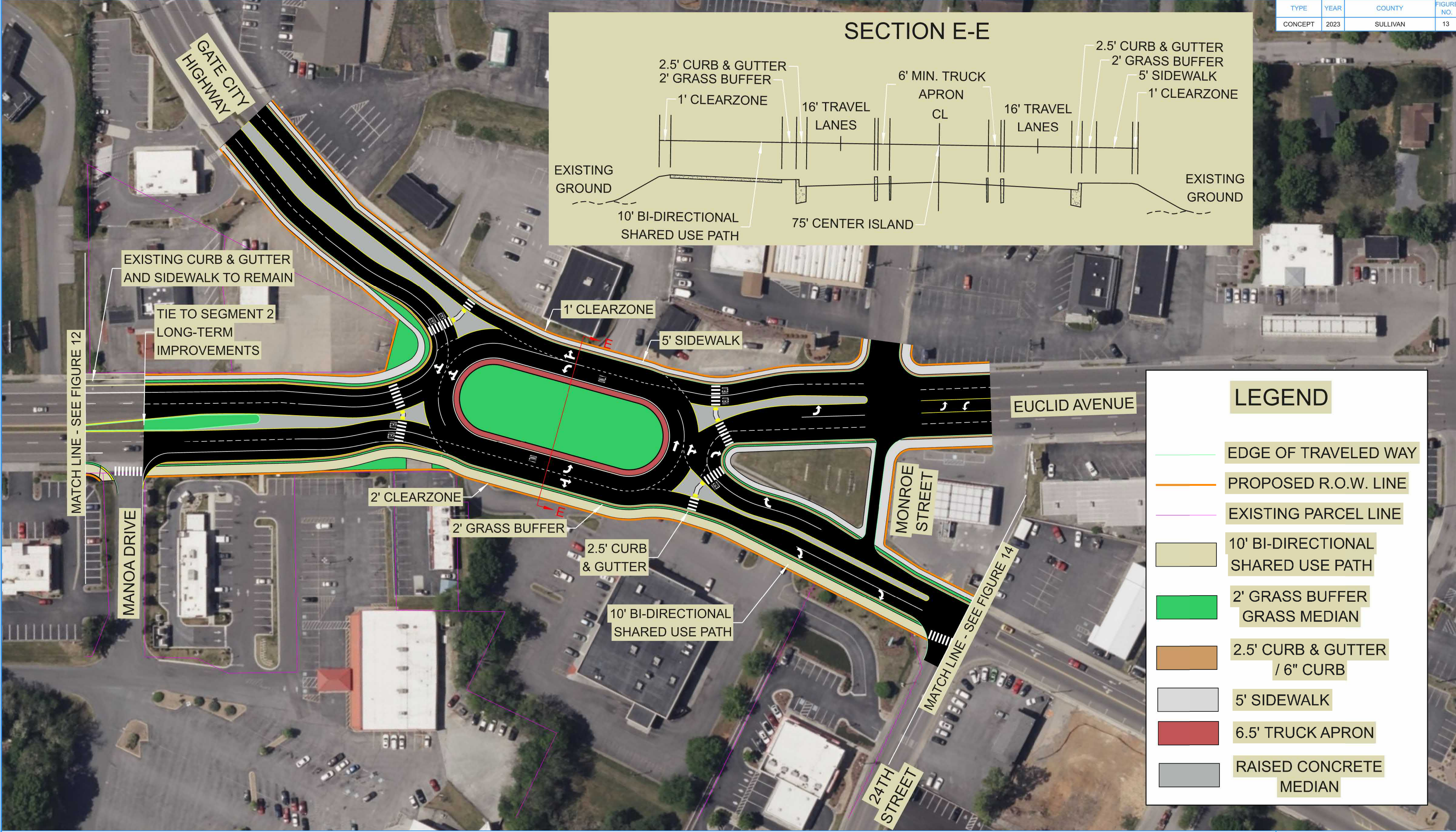
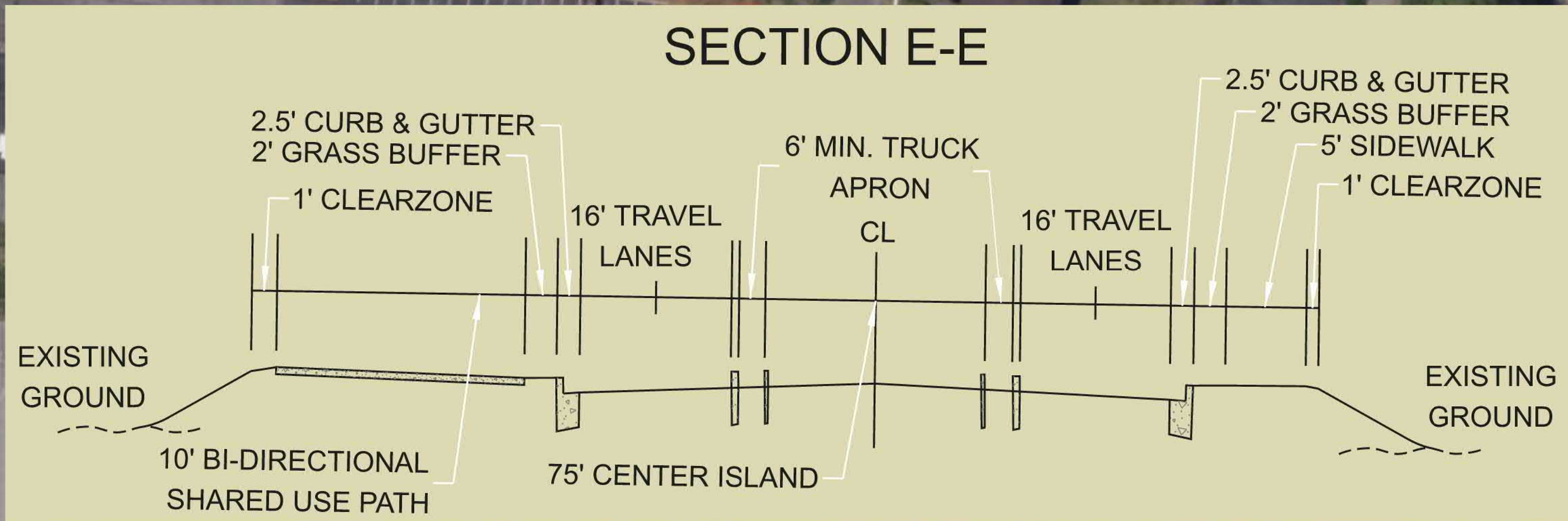
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

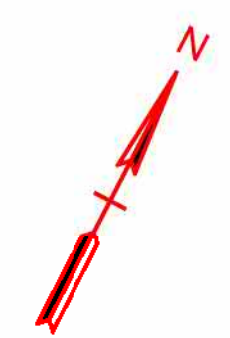
FIGURE 18B
MID-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE

Segment 2 Plan Sheets - Long-Term Vision

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	13



LEGEND	
	EDGE OF TRAVELED WAY
	PROPOSED R.O.W. LINE
	EXISTING PARCEL LINE
	10' BI-DIRECTIONAL SHARED USE PATH
	2' GRASS BUFFER GRASS MEDIAN
	2.5' CURB & GUTTER / 6" CURB
	5' SIDEWALK
	6.5' TRUCK APRON
	RAISED CONCRETE MEDIAN



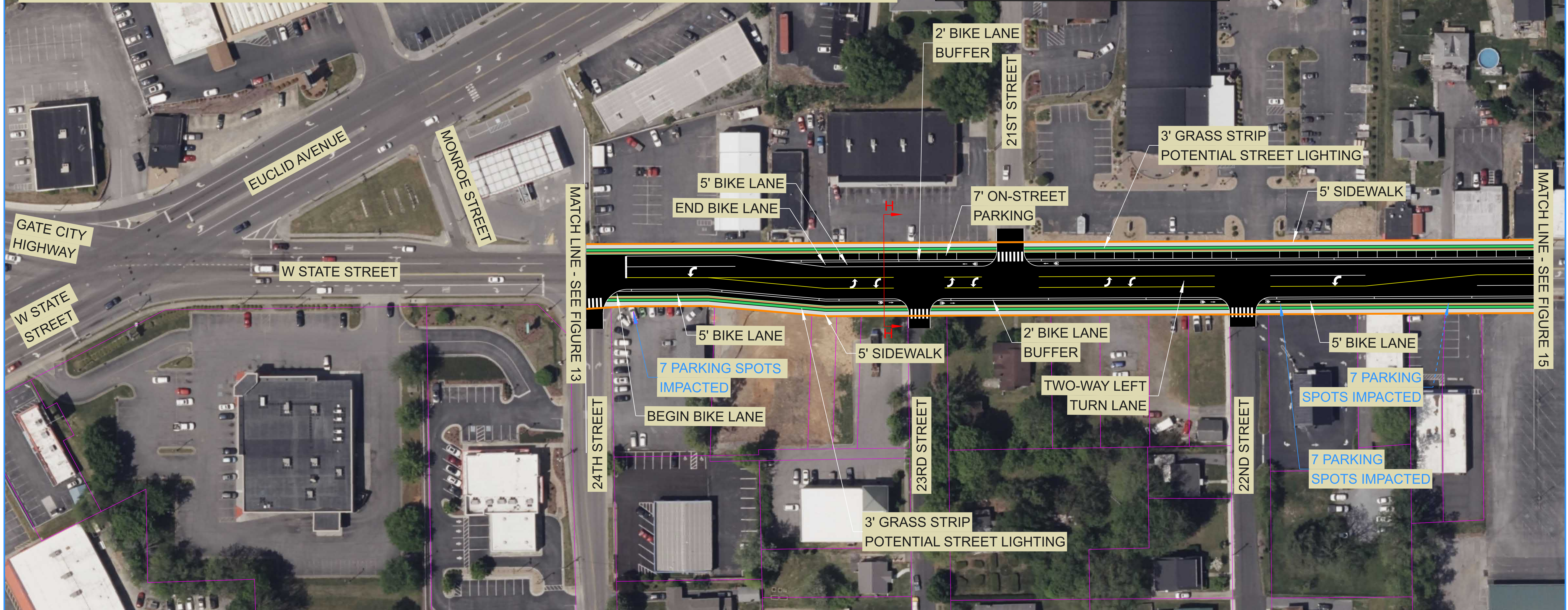
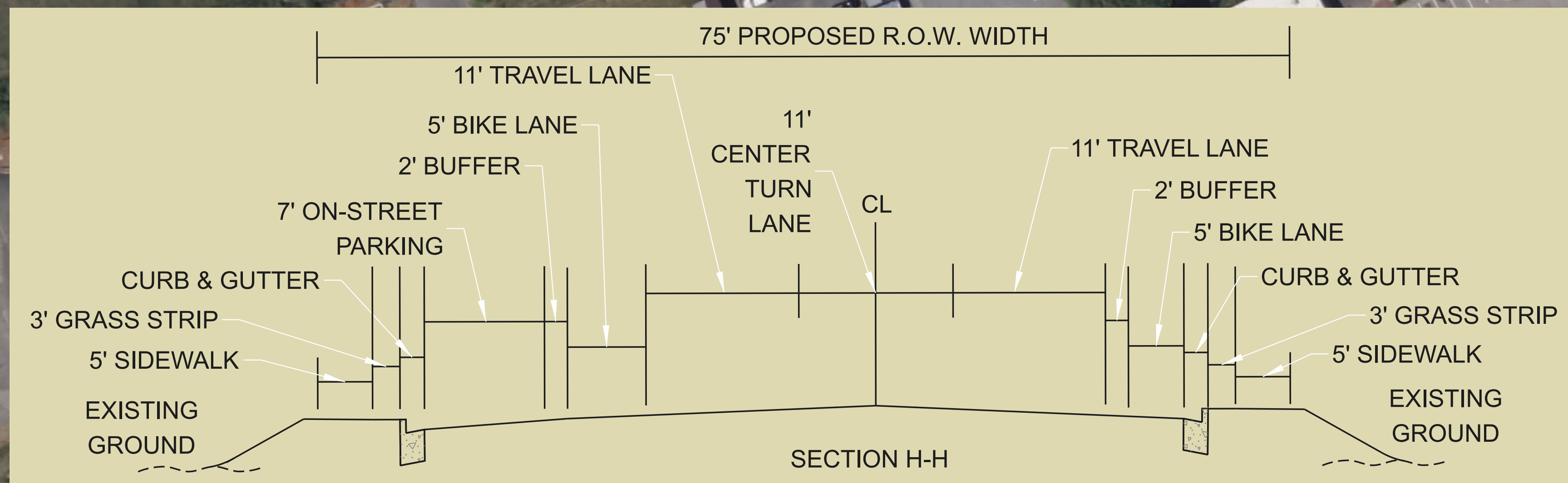
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S. 11W/S.R. 1
FROM PINNACLE PARKWAY TO EUCLID AVENUE
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 13
SHARED USE PATH
TIE TO SEGMENT 2
LONG-TERM OPTION

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	14



BRISTOL WEST STATE STREET CORRIDOR STUDY

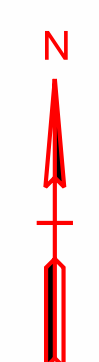
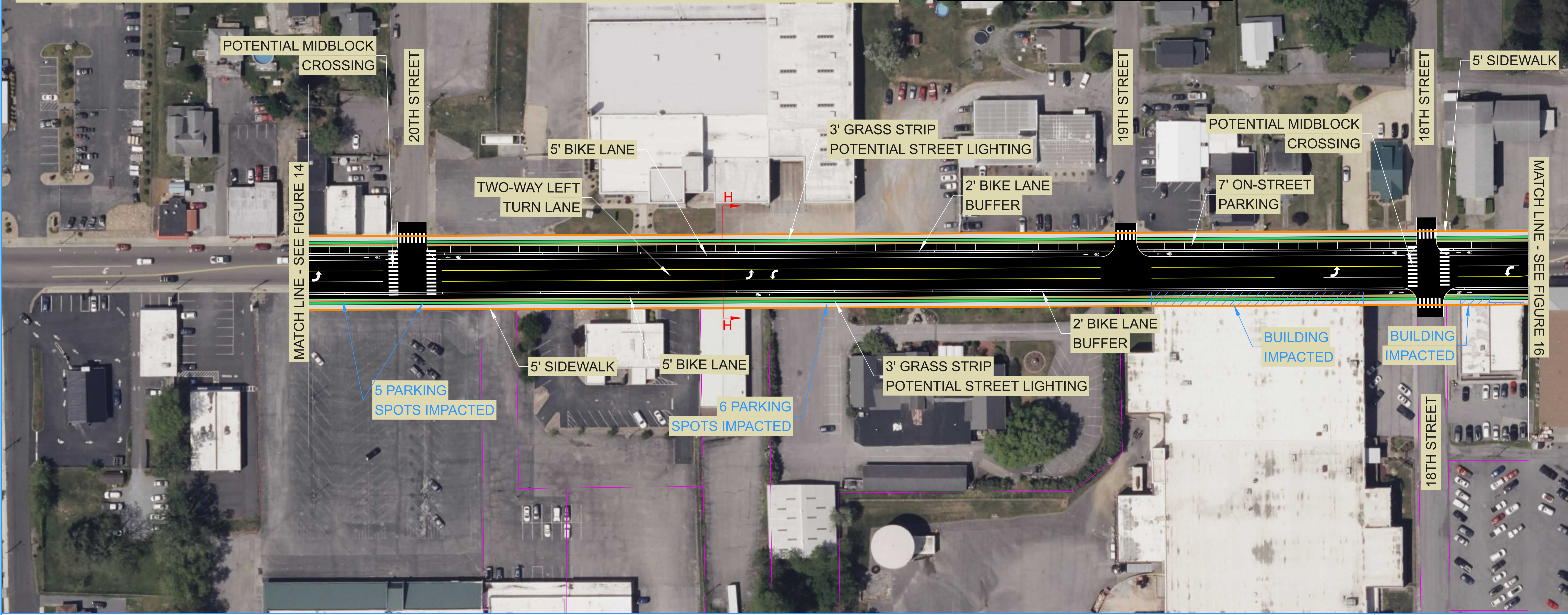
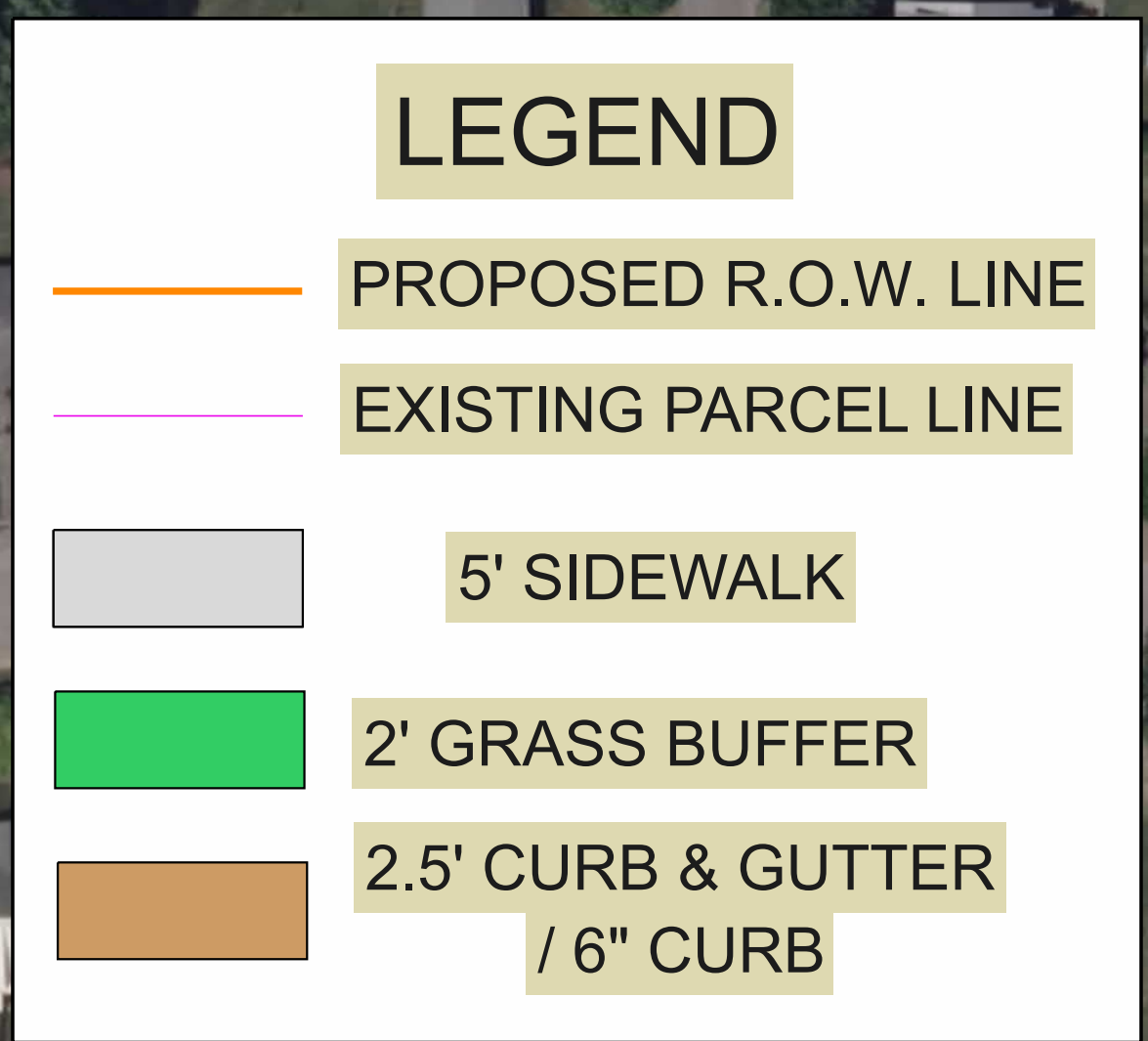
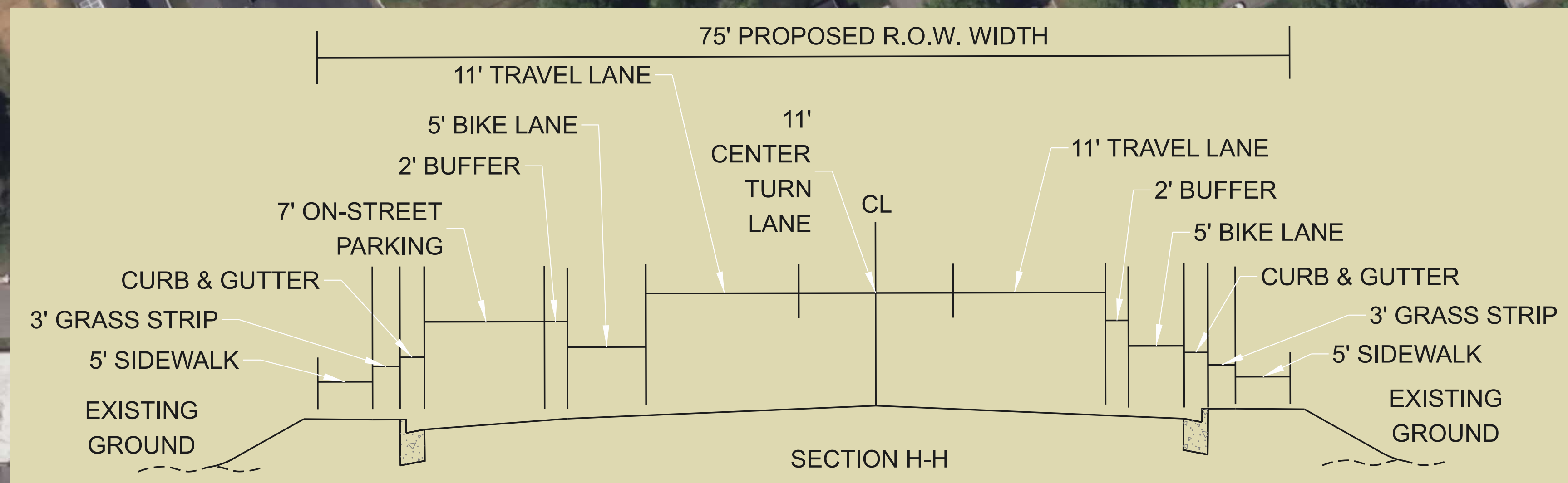
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 14
LONG-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE
& BIKE LANES

7/27/2023 8:12:38 AM J:\182918 TDOT REG PLANNING ON-CALL\182918K - BRISTOL WEST STATE STREET CORRIDOR STUDY\5.0 PROJECT DATA\5.0 RECOMMENDATIONS AND REPORT\CONCEPT DRAWINGS\BRISTOL CORRIDOR STUDY - CONCEPT DRAWINGS.DGN

TYPE	YEAR	COUNTY	FIGURE NO.
CONCEPT	2023	SULLIVAN	15



BRISTOL WEST STATE STREET CORRIDOR STUDY

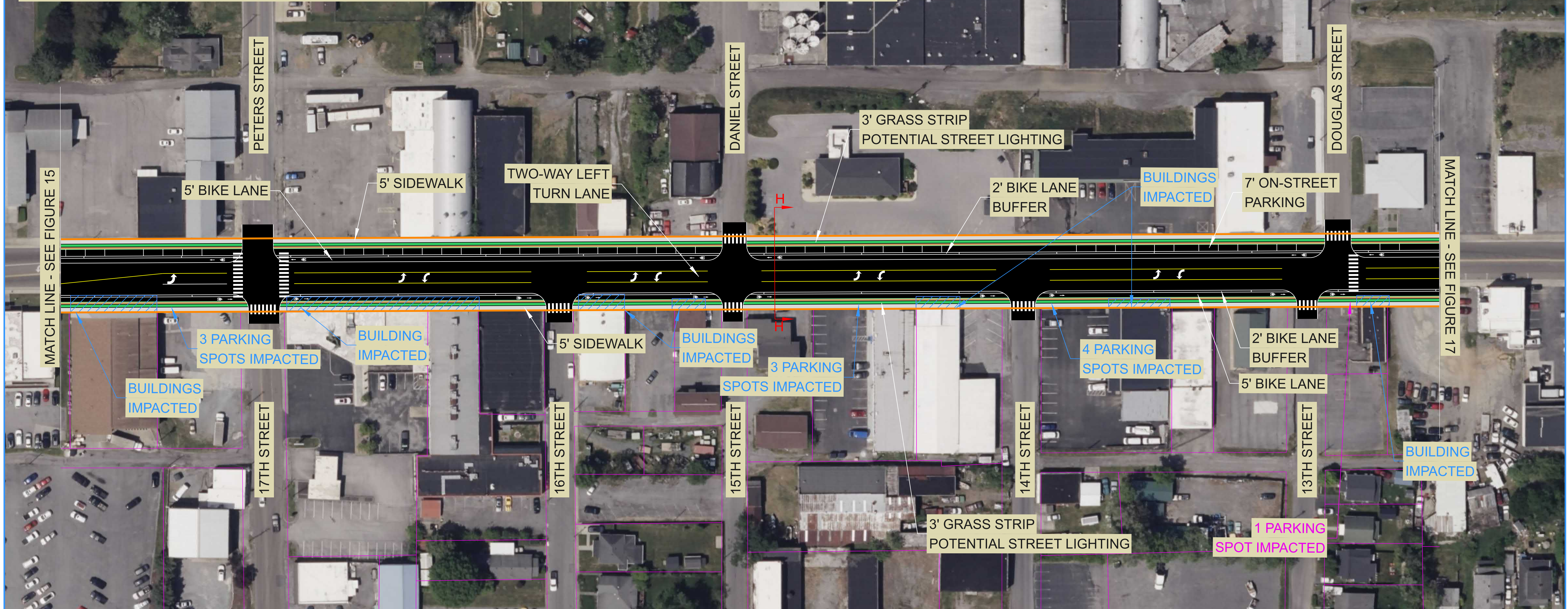
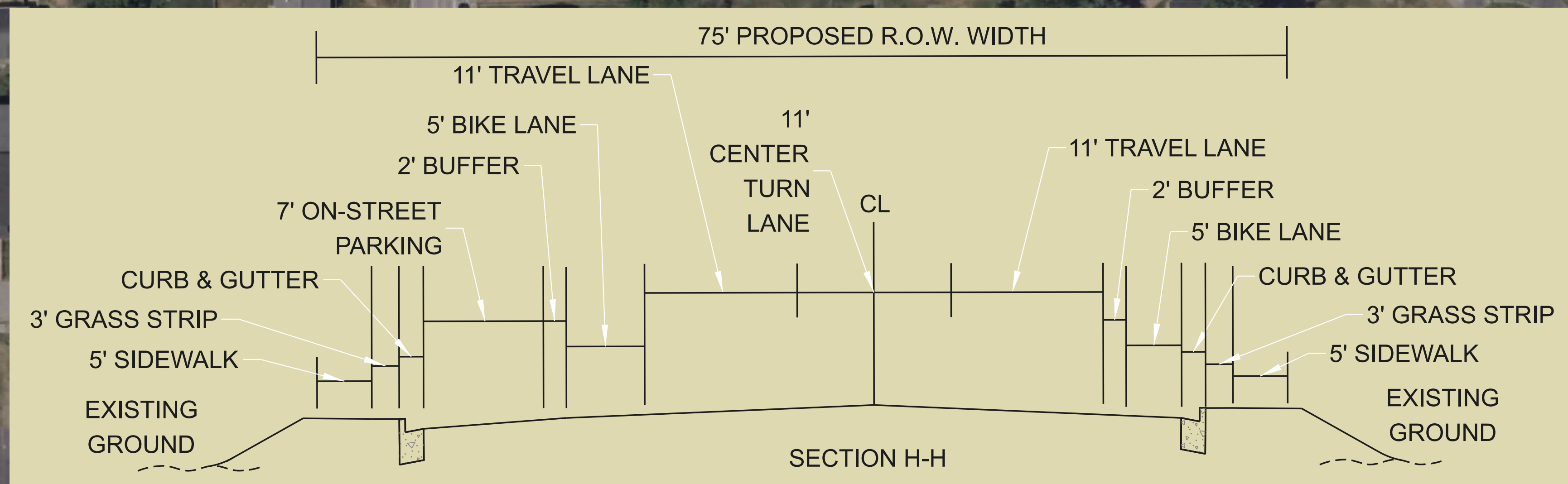
U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 15
LONG-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE
& BIKE LANES

7/27/2023 8:14:20 AM J:\182918 TDOT REG PLANNING ON-CALL\182918K - BRISTOL WEST STATE STREET CORRIDOR STUDY\5.0 PROJECT DATA\5.0 RECOMMENDATIONS AND REPORT\CONCEPT DRAWINGS\BRISTOL CORRIDOR STUDY - CONCEPT DRAWINGS.DGN

TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	16



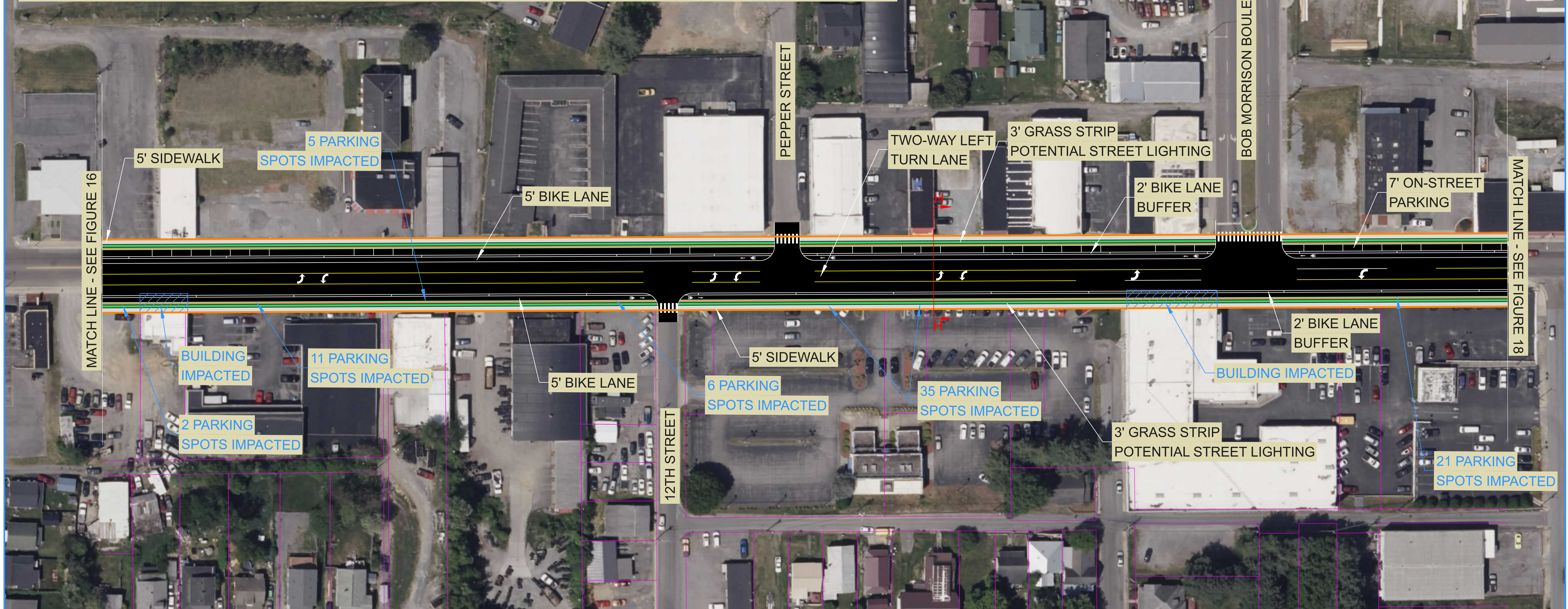
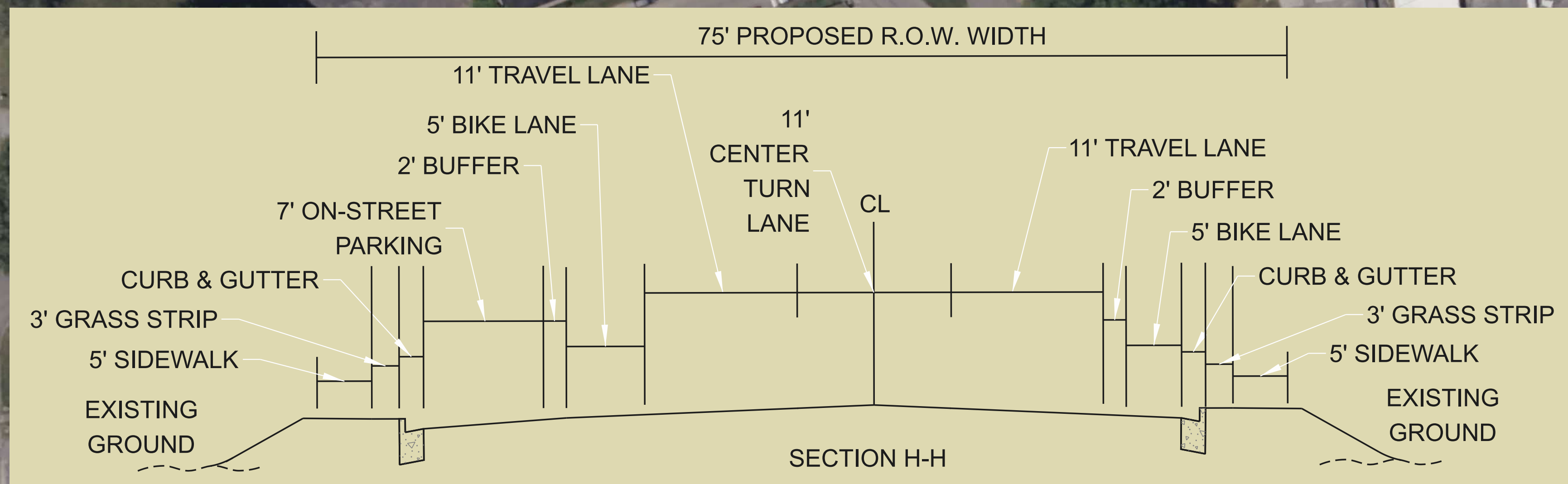
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 16
LONG-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE
& BIKE LANES

TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	17



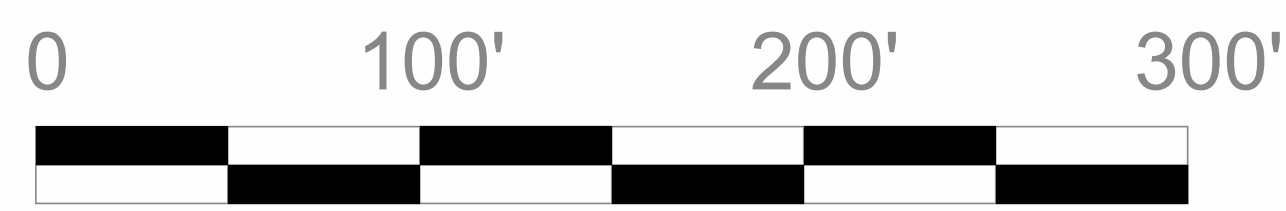
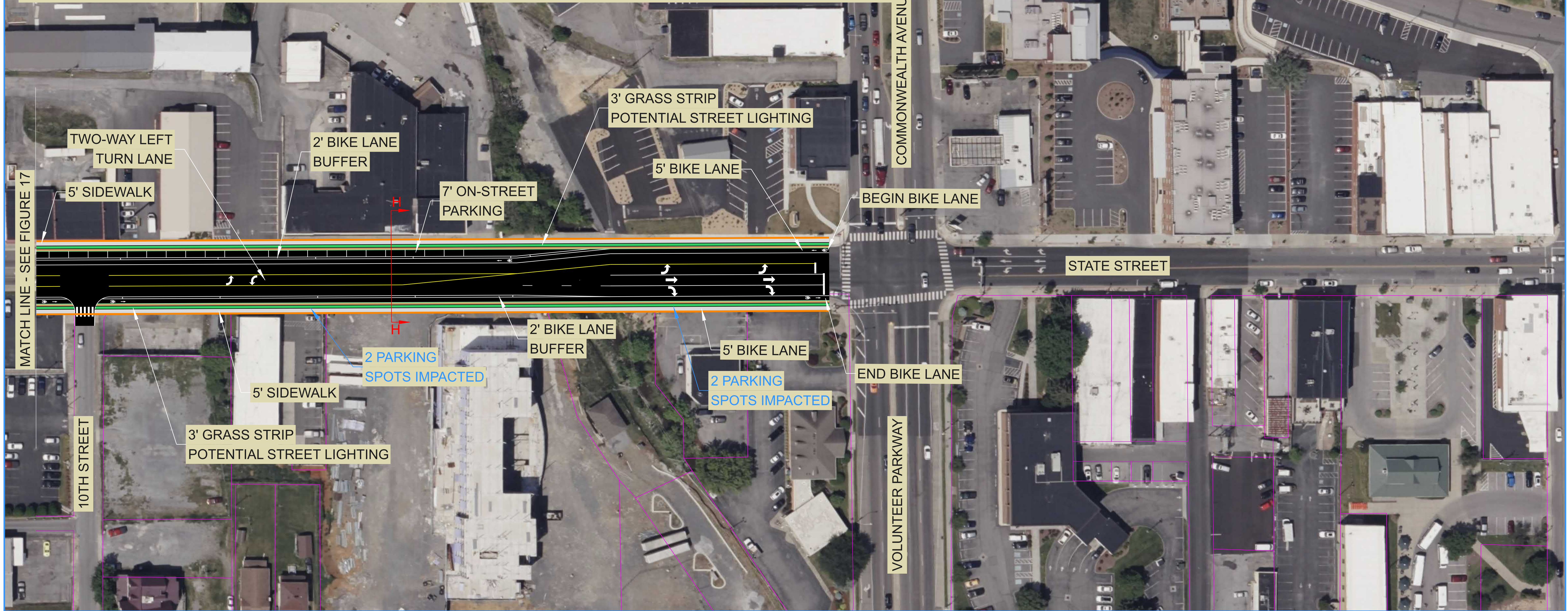
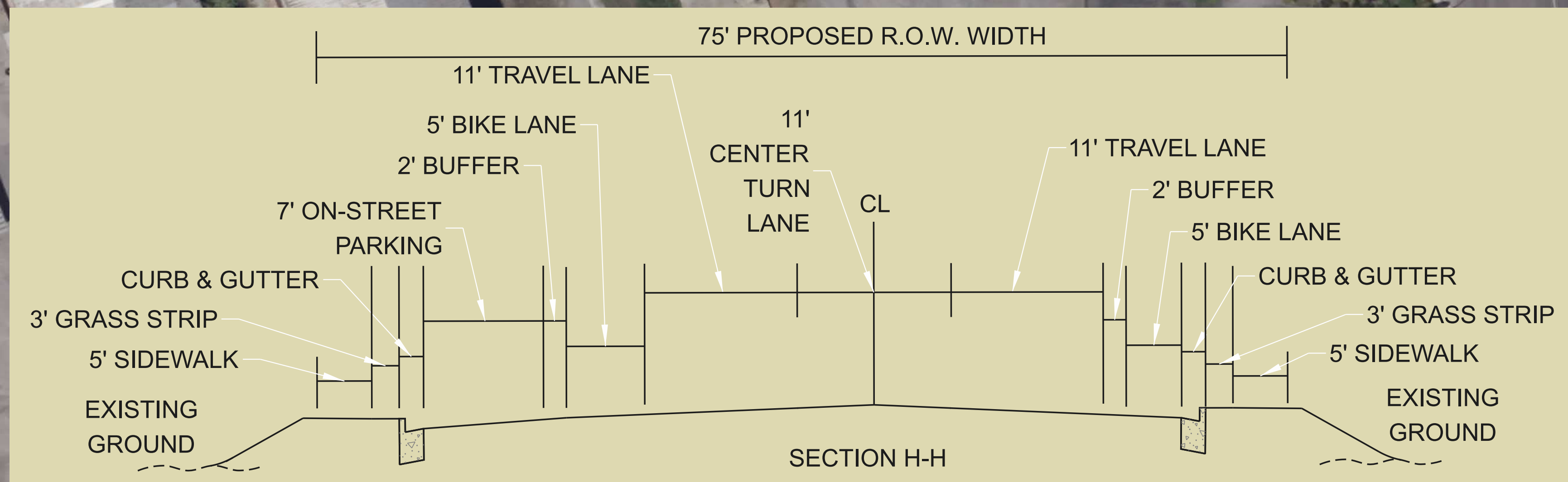
BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL

FIGURE 17
LONG-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE
& BIKE LANES

TYPE	YEAR	COUNTY	NO.
CONCEPT	2023	SULLIVAN	18



BRISTOL WEST STATE STREET CORRIDOR STUDY

U.S.11W/U.S. 421 TO U.S.11W/U.S.19
FROM EUCLID AVENUE TO VOLUNTEER PARKWAY
SULLIVAN COUNTY

CITY OF BRISTOL


FIGURE 18
LONG-TERM IMPROVEMENTS
TWO-WAY LEFT
TURN LANE
& BIKE LANES

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Cost Estimate Sheets

Segment 1 - West of Interchange


COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	Pinnacle Parkway to Stevens Trail/Island Road			
Scope of Work:	Corridor Study			
Project Type of Work:	Bicycles and Pedestrian Facility			
County:	Sullivan			
Length:	0.14 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	0%	20%	0%	
Construction Items				
Removal Items		\$0	\$0	\$0
Asphalt Paving		\$0	\$11,100	\$56,700
Concrete Pavement		\$0	\$0	\$0
Drainage		\$0	\$0	\$0
Appurtenances		\$0	\$0	\$0
Structures & Contingency		\$0	\$0	\$0
Fencing		\$0	\$0	\$0
Signalization & Lighting		\$0	\$0	\$0
Railroad Crossing		\$0	\$0	\$0
Earthwork		\$0	\$24,000	\$120,000
Clearing and Grubbing		\$0	\$6,300	\$31,400
Seeding & Sodding		\$0	\$0	\$0
Rip-Rap or Slope Protection		\$0	\$0	\$0
Guardrail		\$0	\$1,200	\$6,100
Signing		\$0	\$0	\$200
Pavement Markings		\$0	\$500	\$2,500
Maintenance of Traffic		\$0	\$2,100	\$10,400
Construction Lines and Stakes		\$0	\$4,200	\$21,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$0	\$4,500	\$22,600
Additional Items	20%	\$0	\$9,100	\$45,300
Const. Contingency (Structures Not Included)	50%	\$0	\$29,400	\$147,000
Const. Eng. & Inspec.	15%	\$0	\$13,200	\$66,200
Construction Estimate - DBB & DB		\$0	\$105,600	\$528,000
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$0	\$9,100	\$45,300
Additional Items	20%	\$0	\$9,100	\$45,300
Const. Contingency (Structures Not Included)	100%	\$0	\$58,800	\$294,000
Const. Eng. & Inspec.	15%	\$0	\$18,300	\$91,600
Construction Estimate - CMGC		\$0	\$144,800	\$724,000
Right-of-Way & Utilities				
	LOCAL	STATE	FEDERAL	TOTAL
	0%	0%	0%	
Right-of-Way		\$0	\$0	\$401,000
Utilities		\$0	\$0	\$376,000
Preliminary Engineering				
	LOCAL	STATE	FEDERAL	TOTAL
	0%	0%	0%	
Prelim. Eng.	10.0%	\$0	\$0	\$52,800
Prelim. Eng. (Design-Build)	20.0%	\$0	\$0	\$92,400
Prelim. Eng. (CMGC)	25.0%	\$0	\$0	\$158,000
Design-Bid-Build Project Cost		\$0	\$105,600	\$ 1,360,000
Design-Build Project Cost		\$0	\$105,600	\$ 1,400,000
CMGC (High Risk) Cost		\$0	\$144,800	\$ 1,660,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
	ROLE	NAME/ORGANIZATION	STAMP	
	Primary Cost Estimator:			
	Independent Cost Estimator:			
	Manager:			
	QA/QC performed by:			




Segment 1 - East of Interchange

COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	From Medical Park Boulevard to Manoa Drive			
Scope of Work:	Corridor Study (East of Interchange)			
Project Type of Work:	Bicycles and Pedestrian Facility			
County:	Sullivan			
Length:	2.46 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	0%	20%	0%	
Construction Items				
Removal Items		\$0	\$0	\$0
Asphalt Paving		\$0	\$386,000	\$1,930,000
Concrete Pavement		\$0	\$0	\$0
Drainage		\$0	\$0	\$0
Appurtenances		\$0	\$0	\$0
Structures & Contingency		\$0	\$0	\$0
Fencing		\$0	\$0	\$0
Signalization & Lighting		\$0	\$0	\$0
Railroad Crossing		\$0	\$0	\$0
Earthwork		\$0	\$382,000	\$1,910,000
Clearing and Grubbing		\$0	\$49,200	\$246,000
Seeding & Sodding		\$0	\$0	\$0
Rip-Rap or Slope Protection		\$0	\$0	\$0
Guardrail		\$0	\$15,300	\$76,700
Signing		\$0	\$800	\$4,200
Pavement Markings		\$0	\$8,900	\$44,500
Maintenance of Traffic		\$0	\$24,600	\$123,000
Construction Lines and Stakes		\$0	\$20,200	\$101,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$0	\$86,600	\$433,000
Additional Items	20%	\$0	\$173,400	\$867,000
Const. Contingency (Structures Not Included)	50%	\$0	\$564,000	\$2,820,000
Const. Eng. & Inspec.	15%	\$0	\$254,000	\$1,270,000
Construction Estimate - DBB & DB		\$0	\$1,966,000	\$9,830,000
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$0	\$173,400	\$867,000
Additional Items	20%	\$0	\$173,400	\$867,000
Const. Contingency (Structures Not Included)	100%	\$0	\$1,126,000	\$5,630,000
Const. Eng. & Inspec.	15%	\$0	\$350,000	\$1,750,000
Construction Estimate - CMGC		\$0	\$2,700,000	\$13,500,000
Right-of-Way & Utilities				
	LOCAL	STATE	FEDERAL	TOTAL
	0%	0%	0%	
Right-of-Way		\$0	\$0	\$1,510,000
Utilities		\$0	\$0	\$8,470,000
Preliminary Engineering				
	LOCAL	STATE	FEDERAL	TOTAL
	0%	0%	0%	
Prelim. Eng.	10.0%	\$0	\$0	\$983,000
Prelim. Eng. (Design-Build)	20.0%	\$0	\$0	\$1,710,000
Prelim. Eng. (CMGC)	25.0%	\$0	\$0	\$2,950,000
Design-Bid-Build Project Cost		\$0	\$1,966,000	\$20,800,000
Design-Build Project Cost		\$0	\$1,966,000	\$21,500,000
CMGC (High Risk) Cost		\$0	\$2,700,000	\$26,400,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
	ROLE	NAME/ORGANIZATION	STAMP	
	Primary Cost Estimator:			
	Independent Cost Estimator:			
	Manager:			
	QA/QC performed by:			


Segment 1 - Interchange Area

COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	From Stevens Trail/Island Road to Medical Park Boulevard			
Scope of Work:	Corridor Study			
Project Type of Work:	Bicycles and Pedestrian Facility			
County:	Sullivan			
Length:	0.50 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
				
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	0%	20%	0%	
Construction Items				
Removal Items	\$0	\$0	\$0	\$0
Asphalt Paving	\$0	\$78,200	\$0	\$391,000
Concrete Pavement	\$0	\$0	\$0	\$0
Drainage	\$0	\$0	\$0	\$0
Appurtenances	\$0	\$0	\$0	\$0
Structures & Contingency	\$0	\$254,000	\$0	\$1,270,000
Fencing	\$0	\$0	\$0	\$0
Signalization & Lighting	\$0	\$0	\$0	\$0
Railroad Crossing	\$0	\$0	\$0	\$0
Earthwork	\$0	\$78,400	\$0	\$392,000
Clearing and Grubbing	\$0	\$0	\$0	\$0
Seeding & Sodding	\$0	\$0	\$0	\$0
Rip-Rap or Slope Protection	\$0	\$0	\$0	\$0
Guardrail	\$0	\$3,200	\$0	\$16,200
Signage	\$0	\$400	\$0	\$2,100
Pavement Markings	\$0	\$1,700	\$0	\$8,700
Maintenance of Traffic	\$0	\$16,500	\$0	\$82,400
Construction Lines and Stakes	\$0	\$10,200	\$0	\$51,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$0	\$43,200	\$0
Additional Items	20%	\$0	\$86,400	\$0
Const. Contingency (Structures Not Included)	50%	\$0	\$154,000	\$0
Const. Eng. & Inspec.	15%	\$0	\$107,400	\$0
Construction Estimate - DBB & DB		\$0	\$834,000	\$0
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$0	\$86,400	\$0
Additional Items	20%	\$0	\$86,400	\$0
Const. Contingency (Structures Not Included)	100%	\$0	\$308,000	\$0
Const. Eng. & Inspec.	15%	\$0	\$137,000	\$0
Construction Estimate - CMGC		\$0	\$1,060,000	\$0
Right-of-Way & Utilities				
	LOCAL	STATE	FEDERAL	TOTAL
	0%	0%	0%	
Right-of-Way	\$0	\$0	\$0	\$0
Utilities	\$0	\$0	\$0	\$0
Preliminary Engineering				
	LOCAL	STATE	FEDERAL	TOTAL
	0%	0%	0%	
Prelim. Eng.	10.0%	\$0	\$0	\$0
Prelim. Eng. (Design-Build)	20.0%	\$0	\$0	\$0
Prelim. Eng. (CMGC)	25.0%	\$0	\$0	\$0
Design-Bid-Build Project Cost	\$0	\$834,000	\$0	\$ 4,590,000
Design-Build Project Cost	\$0	\$834,000	\$0	\$ 4,900,000
CMGC (High Risk) Cost	\$0	\$1,060,000	\$0	\$ 6,450,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
	ROLE	NAME/ORGANIZATION	STAMP	
	Primary Cost Estimator:			
	Independent Cost Estimator:			
	Manager:			
	QA/QC performed by:			

Segment 2 - Intermediate Option A


COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	From Euclid Avenue to Volunteer Parkway			
Scope of Work:	Corridor Study (Downtown Bristol)			
Project Type of Work:	Bicycles and Pedestrian Facility			
County:	Sullivan			
Length:	1.19 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Construction Items				
Removal Items	\$271,000	\$0	\$0	\$271,000
Asphalt Paving	\$296,000	\$0	\$0	\$296,000
Concrete Pavement	\$115,000	\$0	\$0	\$115,000
Drainage	\$0	\$0	\$0	\$0
Appurtenances	\$0	\$0	\$0	\$0
Structures & Contingency	\$0	\$0	\$0	\$0
Fencing	\$0	\$0	\$0	\$0
Signalization & Lighting	\$0	\$0	\$0	\$0
Railroad Crossing	\$0	\$0	\$0	\$0
Earthwork	\$678,000	\$0	\$0	\$678,000
Clearing and Grubbing	\$136,000	\$0	\$0	\$136,000
Seeding & Sodding	\$0	\$0	\$0	\$0
Rip-Rap or Slope Protection	\$0	\$0	\$0	\$0
Guardrail	\$0	\$0	\$0	\$0
Signing	\$1,500	\$0	\$0	\$1,500
Pavement Markings	\$86,500	\$0	\$0	\$86,500
Maintenance of Traffic	\$86,800	\$0	\$0	\$86,800
Construction Lines and Stakes	\$48,000	\$0	\$0	\$48,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$167,000	\$0	\$167,000
Additional Items	20%	\$334,000	\$0	\$334,000
Const. Contingency (Structures Not Included)	50%	\$1,090,000	\$0	\$1,090,000
Const. Eng. & Inspec.	15%	\$489,000	\$0	\$489,000
Construction Estimate - DBB & DB		\$0	\$0	\$3,800,000
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$334,000	\$0	\$334,000
Additional Items	20%	\$334,000	\$0	\$334,000
Const. Contingency (Structures Not Included)	100%	\$2,170,000	\$0	\$2,170,000
Const. Eng. & Inspec.	15%	\$676,000	\$0	\$676,000
Construction Estimate - CMGC		\$0	\$0	\$5,230,000
Right-of-Way & Utilities				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Right-of-Way	\$75,000	\$0	\$0	\$75,000
Utilities	\$0	\$0	\$0	\$0
Preliminary Engineering				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Prelim. Eng.	10.0%	\$380,000	\$0	\$380,000
Prelim. Eng. (Design-Build)	20.0%	\$662,000	\$0	\$662,000
Prelim. Eng. (CMGC)	25.0%	\$1,140,000	\$0	\$1,140,000
Design-Bid-Build Project Cost	\$455,000	\$0	\$0	\$ 4,260,000
Design-Build Project Cost	\$737,000	\$0	\$0	\$ 4,540,000
CMGC (High Risk) Cost	\$1,215,000	\$0	\$0	\$ 6,450,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
	ROLE	NAME/ORGANIZATION	STAMP	
	Primary Cost Estimator:			
	Independent Cost Estimator:			
	Manager:			
	QA/QC performed by:			




Segment 2 - Intermediate Option B

COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	From Euclid Avenue to Volunteer Parkway			
Scope of Work:	Corridor Study (Downtown Bristol)			
Project Type of Work:	Turn Lanes			
County:	Sullivan			
Length:	1.19 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Construction Items				
Removal Items	\$271,000	\$0	\$0	\$271,000
Asphalt Paving	\$292,000	\$0	\$0	\$292,000
Concrete Pavement	\$115,000	\$0	\$0	\$115,000
Drainage	\$0	\$0	\$0	\$0
Appurtenances	\$0	\$0	\$0	\$0
Structures & Contingency	\$0	\$0	\$0	\$0
Fencing	\$0	\$0	\$0	\$0
Signalization & Lighting	\$0	\$0	\$0	\$0
Railroad Crossing	\$0	\$0	\$0	\$0
Earthwork	\$674,000	\$0	\$0	\$674,000
Clearing and Grubbing	\$136,000	\$0	\$0	\$136,000
Seeding & Sodding	\$0	\$0	\$0	\$0
Rip-Rap or Slope Protection	\$0	\$0	\$0	\$0
Guardrail	\$0	\$0	\$0	\$0
Signing	\$1,500	\$0	\$0	\$1,500
Pavement Markings	\$86,500	\$0	\$0	\$86,500
Maintenance of Traffic	\$86,800	\$0	\$0	\$86,800
Construction Lines and Stakes	\$48,000	\$0	\$0	\$48,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$166,000	\$0	\$166,000
Additional Items	20%	\$333,000	\$0	\$333,000
Const. Contingency (Structures Not Included)	50%	\$1,080,000	\$0	\$1,080,000
Const. Eng. & Inspec.	15%	\$486,000	\$0	\$486,000
Construction Estimate - DBB & DB		\$0	\$0	\$3,780,000
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$333,000	\$0	\$333,000
Additional Items	20%	\$333,000	\$0	\$333,000
Const. Contingency (Structures Not Included)	100%	\$2,160,000	\$0	\$2,160,000
Const. Eng. & Inspec.	15%	\$673,000	\$0	\$673,000
Construction Estimate - CMGC		\$0	\$0	\$5,210,000
Right-of-Way & Utilities				
Right-of-Way		\$64,000	\$0	\$64,000
Utilities		\$0	\$0	\$0
Preliminary Engineering				
Prelim. Eng.	10.0%	\$378,000	\$0	\$378,000
Prelim. Eng. (Design-Build)	20.0%	\$658,000	\$0	\$658,000
Prelim. Eng. (CMGC)	25.0%	\$1,130,000	\$0	\$1,130,000
Design-Bid-Build Project Cost		\$442,000	\$0	\$ 4,220,000
Design-Build Project Cost		\$722,000	\$0	\$ 4,500,000
CMGC (High Risk) Cost		\$1,194,000	\$0	\$ 6,400,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
ROLE	NAME/ORGANIZATION		STAMP	
Primary Cost Estimator:				
Independent Cost Estimator:				
Manager:				
QA/QC performed by:				

Segment 2 - Long-Term Vision


COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	From Euclid Avenue to Volunteer Parkway			
Scope of Work:	Corridor Study (Downtown Bristol)			
Project Type of Work:	Widen			
County:	Sullivan			
Length:	1.19 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Construction Items				
Removal Items	\$271,000	\$0	\$0	\$271,000
Asphalt Paving	\$1,400,000	\$0	\$0	\$1,400,000
Concrete Pavement	\$0	\$0	\$0	\$0
Drainage	\$1,820,000	\$0	\$0	\$1,820,000
Appurtenances	\$785,000	\$0	\$0	\$785,000
Structures & Contingency	\$0	\$0	\$0	\$0
Fencing	\$0	\$0	\$0	\$0
Signalization & Lighting	\$0	\$0	\$0	\$0
Railroad Crossing	\$0	\$0	\$0	\$0
Earthwork	\$1,170,000	\$0	\$0	\$1,170,000
Clearing and Grubbing	\$618,000	\$0	\$0	\$618,000
Seeding & Sodding	\$25,200	\$0	\$0	\$25,200
Rip-Rap or Slope Protection	\$0	\$0	\$0	\$0
Guardrail	\$34,700	\$0	\$0	\$34,700
Signing	\$6,100	\$0	\$0	\$6,100
Pavement Markings	\$112,000	\$0	\$0	\$112,000
Maintenance of Traffic	\$123,000	\$0	\$0	\$123,000
Construction Lines and Stakes	\$142,000	\$0	\$0	\$142,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$637,000	\$0	\$637,000
Additional Items	20%	\$1,270,000	\$0	\$1,270,000
Const. Contingency (Structures Not Included)	50%	\$4,140,000	\$0	\$4,140,000
Const. Eng. & Inspec.	15%	\$1,860,000	\$0	\$1,860,000
Construction Estimate - DBB & DB		\$0	\$0	\$14,400,000
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$1,270,000	\$0	\$1,270,000
Additional Items	20%	\$1,270,000	\$0	\$1,270,000
Const. Contingency (Structures Not Included)	100%	\$8,270,000	\$0	\$8,270,000
Const. Eng. & Inspec.	15%	\$2,580,000	\$0	\$2,580,000
Construction Estimate - CMGC		\$0	\$0	\$19,900,000
Right-of-Way & Utilities				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Right-of-Way	\$10,700,000	\$0	\$0	\$10,700,000
Utilities	\$1,070,000	\$0	\$0	\$1,070,000
Preliminary Engineering				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Prelim. Eng.	10.0%	\$1,440,000	\$0	\$1,440,000
Prelim. Eng. (Design-Build)	20.0%	\$2,510,000	\$0	\$2,510,000
Prelim. Eng. (CMGC)	25.0%	\$4,330,000	\$0	\$4,330,000
Design-Bid-Build Project Cost	\$13,210,000	\$0	\$0	\$ 27,600,000
Design-Build Project Cost	\$14,280,000	\$0	\$0	\$ 28,700,000
CMGC (High Risk) Cost	\$16,100,000	\$0	\$0	\$ 36,000,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
	ROLE	NAME/ORGANIZATION	STAMP	
	Primary Cost Estimator:			
	Independent Cost Estimator:			
	Manager:			
	QA/QC performed by:			




Intersection Improvements to Euclid Avenue/Gate City Highway

COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	Intersection of Euclid Avenue and City Gate Highway			
Scope of Work:	Corridor Study			
Project Type of Work:	Intersection Improvements			
County:	Sullivan			
Length:	0.11 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Construction Items				
Removal Items	\$56,000	\$0	\$0	\$56,000
Asphalt Paving	\$98,400	\$0	\$0	\$98,400
Concrete Pavement	\$0	\$0	\$0	\$0
Drainage	\$0	\$0	\$0	\$0
Appurtenances	\$0	\$0	\$0	\$0
Structures & Contingency	\$0	\$0	\$0	\$0
Fencing	\$0	\$0	\$0	\$0
Signalization & Lighting	\$0	\$0	\$0	\$0
Railroad Crossing	\$0	\$0	\$0	\$0
Earthwork	\$31,600	\$0	\$0	\$31,600
Clearing and Grubbing	\$35,400	\$0	\$0	\$35,400
Seeding & Sodding	\$0	\$0	\$0	\$0
Rip-Rap or Slope Protection	\$0	\$0	\$0	\$0
Guardrail	\$0	\$0	\$0	\$0
Signing	\$200	\$0	\$0	\$200
Pavement Markings	\$15,900	\$0	\$0	\$15,900
Maintenance of Traffic	\$10,900	\$0	\$0	\$10,900
Construction Lines and Stakes	\$21,000	\$0	\$0	\$21,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$24,800	\$0	\$24,800
Additional Items	20%	\$49,700	\$0	\$49,700
Const. Contingency (Structures Not Included)	50%	\$161,000	\$0	\$161,000
Const. Eng. & Inspec.	15%	\$72,600	\$0	\$72,600
Construction Estimate - DBB & DB		\$0	\$0	\$578,000
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$49,700	\$0	\$49,700
Additional Items	20%	\$49,700	\$0	\$49,700
Const. Contingency (Structures Not Included)	100%	\$323,000	\$0	\$323,000
Const. Eng. & Inspec.	15%	\$101,000	\$0	\$101,000
Construction Estimate - CMGC		\$0	\$0	\$793,000
Right-of-Way & Utilities				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Right-of-Way	\$557,000	\$0	\$0	\$557,000
Utilities	\$98,100	\$0	\$0	\$98,100
Preliminary Engineering				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Prelim. Eng.	10.0%	\$57,800	\$0	\$57,800
Prelim. Eng. (Design-Build)	20.0%	\$101,000	\$0	\$101,000
Prelim. Eng. (CMGC)	25.0%	\$173,000	\$0	\$173,000
Design-Bid-Build Project Cost	\$712,900	\$0	\$0	\$ 1,290,000
Design-Build Project Cost	\$756,100	\$0	\$0	\$ 1,330,000
CMGC (High Risk) Cost	\$828,100	\$0	\$0	\$ 1,620,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
	ROLE	NAME/ORGANIZATION	STAMP	
	Primary Cost Estimator:			
	Independent Cost Estimator:			
	Manager:			
	QA/QC performed by:			

Roundabout at and Euclid Avenue (US 11W/US 421)/Gate City Highway (US 421)

COST ESTIMATE SUMMARY

PRIMARY ESTIMATE				
INDEPENDENT ESTIMATE				
Route:	West State Street (U.S. 11W/S.R. 1)			
Termini:	Roundabout at Euclid Avenue and City Gate Highway			
Scope of Work:	Corridor Study			
Project Type of Work:	Intersection Improvements			
County:	Sullivan			
Length:	0.31 Miles			
Date:	October 31, 2023			
Estimate Type:	Concept			
Years Inflated:	0			
DESCRIPTION	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Construction Items				
Removal Items	\$188,000	\$0	\$0	\$188,000
Asphalt Paving	\$697,000	\$0	\$0	\$697,000
Concrete Pavement	\$270,000	\$0	\$0	\$270,000
Drainage	\$102,000	\$0	\$0	\$102,000
Appurtenances	\$46,200	\$0	\$0	\$46,200
Structures & Contingency	\$0	\$0	\$0	\$0
Fencing	\$0	\$0	\$0	\$0
Signalization & Lighting	\$0	\$0	\$0	\$0
Railroad Crossing	\$0	\$0	\$0	\$0
Earthwork	\$411,000	\$0	\$0	\$411,000
Clearing and Grubbing	\$85,600	\$0	\$0	\$85,600
Seeding & Sodding	\$1,500	\$0	\$0	\$1,500
Rip-Rap or Slope Protection	\$0	\$0	\$0	\$0
Guardrail	\$18,400	\$0	\$0	\$18,400
Signing	\$1,800	\$0	\$0	\$1,800
Pavement Markings	\$44,600	\$0	\$0	\$44,600
Maintenance of Traffic	\$78,400	\$0	\$0	\$78,400
Construction Lines and Stakes	\$54,000	\$0	\$0	\$54,000
DESIGN-BID-BUILD & DESIGN-BUILD PERCENTAGES				
Mobilization	10%	\$194,000	\$0	\$194,000
Additional Items	20%	\$389,000	\$0	\$389,000
Const. Contingency (Structures Not Included)	50%	\$1,260,000	\$0	\$1,260,000
Const. Eng. & Inspec.	15%	\$718,000	\$0	\$718,000
Construction Estimate - DBB & DB		\$0	\$0	\$4,560,000
CMGC (HIGH RISK) PERCENTAGES				
Mobilization & Constructability Items	20%	\$389,000	\$0	\$389,000
Additional Items	20%	\$389,000	\$0	\$389,000
Const. Contingency (Structures Not Included)	100%	\$2,530,000	\$0	\$2,530,000
Const. Eng. & Inspec.	15%	\$938,000	\$0	\$938,000
Construction Estimate - CMGC		\$0	\$0	\$6,240,000
Right-of-Way & Utilities				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Right-of-Way	\$878,000	\$0	\$0	\$878,000
Utilities	\$280,000	\$0	\$0	\$280,000
Preliminary Engineering				
	LOCAL	STATE	FEDERAL	TOTAL
	100%	0%	0%	
Prelim. Eng.	10.0%	\$556,000	\$0	\$556,000
Prelim. Eng. (Design-Build)	20.0%	\$968,000	\$0	\$968,000
Prelim. Eng. (CMGC)	25.0%	\$1,330,000	\$0	\$1,330,000
Design-Bid-Build Project Cost	\$2,714,000	\$0	\$0	\$ 7,270,000
Design-Build Project Cost	\$3,126,000	\$0	\$0	\$ 7,690,000
CMGC (High Risk) Cost	\$3,488,000	\$0	\$0	\$ 9,730,000
ESTIMATE REVIEW TEAM				
Review Process Applies to Bridge, Legislative, and Economic Development Projects				
	ROLE	NAME/ORGANIZATION	STAMP	
	Primary Cost Estimator:			
	Independent Cost Estimator:			
	Manager:			
	QA/QC performed by:			

